College and University Business

GUEST EDITORIAL

IMPROVING FOOD SERVICE MANAGEMENT

T. M. REHDER
Director of Dormitories and Dining Services
State University of Iowa

LAST YEAR THIS MAGAZINE CONDUCTED A FOOD service survey. In connection with it, the editor commented on the "ignorance of many institutions as to what their actual raw food and labor costs were." One authority was "startled at the limited amount of information some of the schools had and at the inaccurate and inadequate way in which the questionnaires were filled out."

We know this criticism is justified, and as we look back on the histories of most of our food service departments, it is understandable. In past years the food service was the afterthought. Trained people were the exception and not the rule. Now the few schools that do not have trained personnel are the exceptions.

Today with the variety of food services in our colleges and universities—dining halls, cafeterias, soda fountains, coffee shops, and catering departments—and with the increases in volume and the complexities of operation, we desperately need the best in management and administration.

Most dietitians or graduates of institutional food departments are able to do an excellent job of planning menus, producing and serving good food, but too many of them have not had sufficient training in the importance of good business practices and administration.

The dietitian or food service manager does not need to be a C.P.A., but she should know what facts should be recorded and how they should be summarized and presented in significant relationships. She should know how to control cash. She should be able to read and understand an operating statement; she should know how operating results are distorted in the report when an inventory is incorrectly taken or reported; she should know how the control or lack of control on all phases of her operations will reflect in the operating statement.

Food cost represents from 40 to 55 per cent of each dollar revenue and has more to do with the financial success of our feeding enterprise than any other factor. Not only should we have good food cost records, but management must properly interpret them. A manager or supervisor must be able to plan and calculate her costs before serving and, also, to follow through to see that these calculations hold true. Operating a present day food service without good food cost records is like using your checkbook and not filling out the stubs. Our food operations are both manufacturing and selling, and we should use all the applicable technics used by good manufacturing and selling organizations.

A business of even moderate size relies almost exclusively on accounting statements and other written reports rather than on personal observations of the management. The manager's problem is one of getting her story into the vernacular that the college president or business manager can readily understand. It is her problem to translate his demands or recommendations into her daily food operations. If, for example, employes' working hours are changed from forty-eight to forty hours a week, she must realize how operating ratios are affected. She must be able to interpret to him her personal observations regarding changes in volume, changes in costs, equipment needs, policy changes, things that affect operating percentages.

Schools responsible for developing programs for dietitians and institutional food service people would do well to put additional emphasis on the training of their students in good business practices, financial accounting, food cost accounting, and control. Emphasis should be placed on the technics of planning, organization, delegation, supervision, coordination, control and reporting.

This business of college and university feeding with all of its ramifications is with us to stay. We need people who can do a more than satisfactory job of serving food at the lowest possible cost without sacrificing the benefits of good living and sound financial management.

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In this issue:

Improving Food Service Management.....op. 1
T. M. REHDER

Legal Aspects of Giving..... 3
G. ELDREDGE HAMLIN

Where Most Student Health Services Fall Down..... 6
ALEXANDER G. RUTHVEN

Personnel: Nonacademic 7
CLARENDON SMITH

We Send Our Custodians to School..... 10
J. J. WENNER

Administration of Endowment Funds..... 12
HARRY L. WELLS

Statewide Safety Program..... 14
FREDERIC O. GLOVER

Student Fees for Heat and Power..... 15
M. M. CHAMBERS

Food Service Portfolio

Seven Keys to Good Management..... 16
ALTA B. ATKINSON

"Window Murals" Brighten Hall..... 18
ERNIE RAUM

How One Small College Sets Up Its Food Service..... 19
NELLIE GLEASON

When Student Labor Is Used..... 21
V. L. KRETSCHMER

Cafeteria Planning and Layout..... 23
A. G. FRANCIS

Dining Hall at New Rochelle..... 28
MOTHER M. BERENICE

Newly Fabricated for Food Storage..... 30
ROBERT F. HERRON

Maintenance of Equipment..... 33
FRANCIS C. SHIEL

Questions and Answers..... 36
Looking Forward 37
Roving Reporter 38
News of the Month..... 39
Names in the News..... 43
Directory of Associations 44
What's New 74

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C. Smith

CLARENDON SMITH, business manager of MacMurray College, discusses the problems of nonacademic personnel on a college campus from experience that includes two years as a social welfare case worker. Following his case work experience, he served for four years as advertising manager of the Jacksonville (Ill.) *Journal-Courier*. In 1940 he was appointed business manager of Illinois College and in 1942 moved across town to accept the business managership of MacMurray College, the position he now holds. In 1944 he left the campus for a two-year stretch in the navy as executive officer of an LST which operated in both the Atlantic and Pacific theaters. He takes an active part in civic affairs as president of the local chapter of reserve officers of the naval services and as scoutmaster of a cub troop. . . . G. ELDREDGE HAMLIN, vice president and comptroller of The Principia College at Elsah, Ill., had a long and successful career in Chicago financial circles before accepting his present appointment. He speaks authoritatively on tax, bond and stock matters and also enjoys a wide reputation as a raconteur.

J. J. Wenner

JAMES J. WENNER, assistant superintendent of buildings and grounds at the University of Cincinnati, obtained a degree in mechanical engineering from that university and then spent eight years in Ohio and Michigan as a plant engineer with manufacturing concerns. During the war he was a navy lieutenant assigned to naval vessel repair and to technical instruction. Upon leaving the navy, he returned to his alma mater to accept his present position. As you might expect, he takes pride in a home workshop.

Alta B. Atkinson

ALTA B. ATKINSON, manager of food service and associate in home economics at Teachers College, Columbia University, has had twenty years' experience in university and hospital food service and residence hall administration. Her first position, that of assistant to the manager of the University of Washington Commons, was followed by a four-year term as house director of the Martha Cook residence at the University of Michigan. Once there, she accepted a two-year appointment as manager of the Michigan League (women's union) before moving East to become administrative dietitian at New York Hospital. She accepted her present position at Teachers College in 1942.

V. L. Kretschmer

VERNON L. KRETSCHMER, director of the Illini Union at the University of Illinois since 1940, is currently national president of the Association of College Unions. Prior to entering university work, he was a member of the sales staff of Halsey, Stuart and Company for one year and then for six years was vice president of a securities tabulating company in New York. Occasionally, he tries his hand at golf or bowling but remarks that "with a family of one boy and two girls, one has little time for anything else."

THE LEGAL ASPECTS OF GIVING

ONE OF THE AREAS IN WHICH COLleges and universities have not fully realized their potential in terms of financial support is that of properly educating prospective donors as to the tax savings allowable as the result of gifts to a nonprofit institution. In order properly to educate prospective donors, a complete program of interpretation of tax savings was developed by the officers of our institution. Fred A. Eppenberger of the law firm of Salkey and Jones, St. Louis, counsel for the Principia Corporation, cooperated in the preparation of this article and reviewed the tax data contained herein.

Federal and state governments have, for many years, seen fit to encourage the establishment and furtherance of charitable, religious and educational institutions by granting tax advantages to such institutions and to their benefactors. Thus, under the internal revenue code, a nonprofit educational institution is exempted from income taxes.

Gifts to a qualified college may be deducted by the donor from his net income for income tax purposes and are wholly exempt from gift and estate taxes. There are several ways in which an individual may make gifts to a college during his lifetime. They are chiefly gifts of money from income or capital and gifts of property, such as stocks, bonds or real estate.

G. ELDREDGE HAMLIN

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The following paragraphs suggest tax savings and economies that your attorney can take advantage of in helping a donor to plan such gifts.

INDIVIDUAL INCOME TAXES

The federal statutes permit an individual to deduct his benefactions from his net taxable income up to a limit of 15 per cent of his adjusted gross income in any one year. This makes possible a considerable reduction in federal income taxes for a taxpayer making a gift to a qualified college.

For example, an unmarried person with a net taxable income of $100,000 in 1948 who makes no charitable contributions would have a federal income tax of $59,221.60, leaving him a residue of $40,778.40 after taxes. If this person makes a gift to an eligible college of $15,000 in 1948, the additional deduction would reduce his income tax $11,352 to a net tax of $47,869.60 and leave him a residue of $37,130.40 after both the contribution and the income taxes, or only $3648 less than if he had not made the gift. Thus, such a person's gift of $15,000 to a college would cost only $3648. Most states that levy income taxes have similar provisions, so the cost to the taxpayer will usually be further reduced by savings in state income taxes.

In view of the 15 per cent limitation on charitable deductions, a person desiring to make a gift to a college in excess of 15 per cent of his adjusted gross income would be wise to spread his gift over a period of years so as to obtain the maximum income tax benefits.

For example, an unmarried person with an adjusted gross income of $100,000 a year and a net taxable income of $95,000 (after all exemptions and deductions except charitable gifts) may desire to make a gift of $45,000 to an educational institution. If he makes the entire gift to the college in one year, he will be entitled to deduct only $15,000 because his deduction in any one year is limited to 15 per cent of his adjusted gross income, resulting in a net income tax reduction at 1948 rates of $11,220. The net cost of his $45,000 gift will be $33,780.

UNDER "SPLITTING OF INCOME"

On the other hand, if this person gives $15,000 a year for three years (a total of $45,000), he will be entitled to deduct the full amount of each year's gift, reducing his income tax each year $11,220, or a total saving of $33,660. The net cost of the $45,000 gift made in this manner will be $11,340. The federal government will, in effect, pay the remainder.

Under the "income-splitting" provisions of the Revenue Act of 1948, married persons who file joint returns are entitled to compute their tax as

if one half of the total net income belonged to each and as if separate returns were filed. This "splitting of income" has the effect of reducing the tax brackets for married persons, especially when one spouse earns or actually owns all of the income, and thereby reducing the applicable tax rates. Therefore, the tax saving resulting from contributions by unmarried persons will be somewhat greater than that resulting from contributions by married persons having the same total income.

The accompanying tables show approximate federal income tax reductions that can be achieved through gifts by individuals to a college qualifying as a nonprofit educational institution in 1948.

In addition to the income tax reductions outlined, substantial estate tax savings will also result to the individual from such gifts to a college by reason of the fact that the donor's net taxable estate is reduced by the amount of the net cost of such gift to the donor. The amounts of such additional tax savings are illustrated hereafter under estate taxes.

GIFTS OF PROPERTY

Gifts to a college need not be made solely in cash but can be made in any type of property. When planning to make such a gift the donor should consider whether the property has increased or decreased in value since the date of its purchase. The donor as a taxpayer is entitled to a reduction for income tax purposes of the full fair market value of such property on the date of the gift, irrespective of its original cost. There is no tax on any increase in the value of the property over its original cost to taxpayer. As a result, there are substantial tax advantages in making a gift of property that has appreciated in value since its acquisition by taxpayer.

For example, an unmarried taxpayer having a net taxable income of $100,000 desiring to make a gift to a college or university may own stock which he purchased more than six months previously for $4000 but which is now worth $10,000. If the taxpayer first sells the stock, he will incur a capital gain tax of $1500 on the $6000 profit. This tax reduces the net proceeds to $8500. If the taxpayer then gives the proceeds to the college he desires, he will have a deduction of $8500, which will reduce his income tax by $6507.60.

The net result will be that the taxpayer has made a gift of only $8500 at a cost to him of $3492.40 (the difference between the value of the stock, $10,000, and the income tax reduction of $6507.60). However, if the taxpayer gives the stock itself (instead of sale proceeds) to the college, he incurs no capital gain tax and will be entitled to deduct the full value of the stock, $10,000, reducing his income tax by $7656. The net result will be that the taxpayer has made a gift to the institution of the full $10,000 at a cost to himself of only $2344. In the event the taxpayer planned to sell the stock, the cost of giving it away to a college instead of selling it would be only $844 (the difference between $8500, the amount left after paying the capital gain tax, and the tax saving resulting from the gift).

On the other hand, if the property has decreased in value since its purchase, the donor will find it advantageous to sell the property first so as to establish a deductible capital loss and to give the proceeds of sale rather than the property.

CORPORATION INCOME TAXES

The federal statutes likewise permit a corporation to deduct from taxable income its contributions and gifts to educational, religious and charitable institutions up to an amount that does not exceed 5 per cent of its net income. This means that under 1948 tax rates, a corporation having a net income of more than $50,000 will reduce its federal income tax by 38 per cent of any amount so given. For example, a corporation having a net income (before the gift) of $1,000,000 could give $50,000 to a college and thereby reduce its federal income tax by $19,000.

GIFTS IN TRUST

The donor may establish an irrevocable trust reserving the income from the trust property to himself for life with the vested remainder passing to an institution of higher education at the termination of the trust. If a college qualifies as an exempt institution, there is no federal estate tax upon the property when the donor passes on, resulting in estate tax savings. In addition, the donor is entitled to deduct for income tax purposes in the year the trust is created the value of the remainder interest computed according to actuarial tables (up to 15 per cent of his adjusted gross income). Under such a trust arrangement the donor can obtain a present income tax saving without reducing his present or future income and can reduce the estate taxes payable on his estate.

GIFT AND ESTATE TAXES

In addition to the income tax deductions allowed by the federal statutes for gifts to a nonprofit educational

Approximate Individual Income Tax Savings, 1948 Rates

UNMARRIED PERSONS

Net Taxable Income	Amount of Gift	Tax Savings	Net Cost of Gift
$ 5,000	$ 750	$ 171.60	$ 578.40
10,000	1,500	448.80	1,051.20
20,000	3,000	1,372.80	1,627.20
30,000	4,500	2,442.00	2,058.00
40,000	6,000	3,502.40	2,497.60
50,000	7,500	4,712.40	2,787.60
60,000	9,000	5,940.00	3,060.00
80,000	12,000	8,500.80	3,499.20
100,000	15,000	11,352.00	3,648.00
150,000	22,500	17,887.95	4,612.05
250,000	37,500	30,797.81	6,702.19

MARRIED PERSONS FILING JOINT RETURN

Net Joint Taxable Income	Amount of Gift	Tax Savings	Net Cost of Gift
$ 5,000	$ 750	$ 145.20	$ 604.80
10,000	1,500	343.20	1,156.80
20,000	3,000	897.60	2,102.40
30,000	4,500	1,773.20	2,726.80
40,000	6,000	2,744.60	3,255.40
50,000	7,500	3,854.40	3,645.60
60,000	9,000	4,884.00	4,116.00
80,000	12,000	7,004.80	4,995.20
100,000	15,000	9,424.80	5,575.20
150,000	22,500	15,708.00	6,792.00
250,000	37,500	29,370.00	8,130.00

APPROXIMATE ESTATE TAX SAVINGS

Amount of Bequest	If Net Taxable Estate Is $50,000		If Net Taxable Estate Is $100,000		If Net Taxable Estate Is $250,000	
	Total Tax	Tax Savings	Total Tax	Tax Savings	Total Tax	Tax Savings
None	$7,000	.....	$20,700	.....	$65,700	.....
$ 5,000	5,900	$1,100	19,300	$ 1,400	64,200	$ 1,500
25,000	2,300	4,700	13,700	7,000	58,200	7,500
50,000	None	7,000	7,000	13,700	50,700	15,000
100,000	.....	.....	None	20,700	35,700	30,000
250,000	.....	.....	.....	.....	None	65,700

Amount of Bequest	If Net Taxable Estate Is $500,000		If Net Taxable Estate Is $1,000,000		If Net Taxable Estate Is $5,000,000	
	Total Tax	Tax Savings	Total Tax	Tax Savings	Total Tax	Tax Savings
None	$145,700	.....	$325,700	.....	$2,468,200	.....
$ 5,000	144,100	$ 1,600	323,850	$ 1,850	2,465,050	$ 3,150
25,000	137,700	8,000	316,450	9,250	2,452,450	15,750
50,000	129,700	16,000	307,200	18,500	2,436,700	31,500
100,000	113,700	32,000	288,700	37,000	2,405,200	63,000
250,000	65,700	80,000	233,200	92,500	2,310,700	157,500
500,000	None	145,700	145,700	180,000	2,153,200	315,000
1,000,000	.....	.....	None	325,700	1,838,200	630,000
2,000,000	.....	.....	.....	.....	1,263,200	1,205,000
5,000,000	.....	.....	.....	.....	None	2,468,200

institution, all gifts, devises and bequests to such institutions also are completely exempt from federal gift and estate taxes.* As a result, substantial estate tax savings may result from such gifts and bequests, by reason of the fact that the taxable estate is reduced by the amount of the gift, bequest or devise.

For example, a gift of $50,000 by a donor with a net taxable estate of $250,000 prior to the gift would reduce the federal estate tax of such donor at the time of his death by $15,000. This saving in federal estate taxes would result whether the gift was made by the donor during his lifetime or as a bequest by last will and testament.

These substantial estate tax savings may be obtained even though the bequest is not outright and immediate but is subject to a prior life estate. A testamentary trust may be established by will under which the income from the trust property is to be paid to a named beneficiary or beneficiaries for life and the property is to pass to a college upon the death of the beneficiary or beneficiaries. The estate will be entitled to deduct the value of the charitable remainder computed according to actuarial tables. The resulting decrease in tax and increase in the amount of property remaining after taxes will result in an increased annual income for the beneficiary or beneficiaries.

To illustrate, a man with a wife aged 65 and no children has a net estate of $5,000,000 (before the $60,000 exemption). If he leaves his estate outright to his wife, the estate tax would be $968,800. This tax would reduce the estate to $4,031,200, with an annual income to the wife at 4 per cent of $161,248. On the other hand, if he leaves only one-half of his estate to his wife outright or in such manner as to take full advantage of the marital deduction provided by the Revenue Act of 1948 and the balance of his estate in trust for his wife for her life with remainder over to a college or university, the estate tax (computed in accordance with actuarial tables provided by the tax regulations) would be approximately $369,000. This tax would reduce the estate only to $4,631,000, with an annual income to the wife at 4 per cent of $185,240, or approximately $24,000 more than in the case of the outright bequest.

A gift of real property may offer substantial advantages to the donor's estate. In many cases it eliminates the difficulties and expense of appraisal, since its value is immaterial to the federal taxing authorities.

ESTATE TAX SAVINGS

The accompanying schedule of approximate estate tax savings is computed on the basis of the federal estate tax only, without allowing for possible credit for state inheritance and estate taxes. Additional savings may result in many states by further inheritance tax savings. In each case the amount of net taxable estate shown is the value of the net estate, after deducting the $60,000 exemption but before deducting the amount of the charitable gift, devise or bequest.

In computing the amount of the net taxable estate, the proceeds of life insurance generally must be included even though payable to beneficiaries other than the insured's estate. In addition, jointly held property must be included except to the extent that the original consideration for the property was furnished by the survivor. However, the amount of any bequest (which meets certain legal conditions) to a surviving spouse is de-

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*The federal estate tax law allows a specific exemption of $60,000 so that the tax applies only to the amount of the net estate in excess of $60,000. For purposes of simplification, the $60,000 exemption has been already deducted in the tables and examples given except when specifically indicated otherwise. For example, a reference to a net taxable estate of $250,000 would involve a total net estate of $310,000.

A marital deduction is allowed under the provisions of the Revenue Act of 1948 so that the estate of a married person may be further reduced as much as 50 per cent by the value of property passing to the surviving spouse and meeting the conditions enumerated in the law. For example, a married man whose net estate before the $60,000 exemption or marital deduction is $1,120,000 may leave $560,000 outright to his wife free of estate tax. The balance of $560,000 after taking the marital deduction would be further reduced by the $60,000 exemption so that the net taxable estate would be only $500,000.

However, any property passing to the surviving spouse so as to qualify for the marital deduction will be includable in the estate of the survivor upon his or her death. Therefore, it may be advantageous, as for example when both husband and wife have relatively equal substantial estates, to leave the estate in such manner that it would not qualify for the marital deduction but by the same token would not be added to the spouse's estate, as for example leaving the estate in trust with income to the spouse for life.

To determine the most advantageous method of leaving his estate, the taxpayer should consult his attorney.

ductible up to a maximum limit of 50 per cent of the "adjusted gross estate" (generally the net estate before deducting the marital deduction, charitable bequests and the $60,000 specific exemption).

SAVINGS BY LIFETIME GIFTS

The tax advantages of a gift during the donor's lifetime over a testamentary gift are readily apparent. The lifetime gift not only removes the property from the donor's estate with consequent savings in estate taxes but also entitles the donor to an income tax deduction (lost in the case of a testamentary disposition).

For example, an unmarried person has an annual net taxable income of $100,000 and will have a net estate of $1,060,000 before deducting the $60,000 exemption. If he makes no charitable gifts or bequests, his estate tax will be $325,700, leaving his heirs $734,300. If he makes a bequest of $100,000 to a college, his estate tax will be reduced to $288,700, leaving his heirs $671,300 after taxes and the charitable bequest. The net cost to his heirs of the $100,000 gift will be $63,000.

On the other hand, if during his lifetime he makes gifts of $15,000 a year for six years and a gift of $10,000 in the seventh year, a total of $100,000, his income tax deductions (at 1948 rates) will save him a total of $74,619.60 in income taxes, reducing his estate $25,380.40 (the amount not recouped by income tax savings).

This reduction of his estate will reduce his estate tax by $9390.75 to a tax of $316,309.25, leaving his heirs $718,310.35 (only $15,989.65 less than if no gifts had been made). The actual cost of such a gift of $100,000 planned wisely would be less than 16 per cent of its face amount. The remaining 84 per cent of the gift is borne by the federal government.

The organization of a program that will properly interpret to prospective donors the attractiveness of giving to a college, and incidentally effecting a tax saving for the donor, is only half the battle. The successful completion of the task depends upon how effectively college administrators utilize the material in approaching prospective donors. There is no easy way to obtain gifts to a college, but sound interpretation will certainly help to persuade prospective donors to consider a college in their bequests.

WHERE MOST STUDENT HEALTH SERVICES FALL DOWN

ALEXANDER G. RUTHVEN
President, University of Michigan

THE DEVELOPMENT OF STUDENT health services in this country since the excellent beginnings made at Amherst College has been truly remarkable. Especially is this true when one takes into consideration the difficulties that have had to be overcome. But, great as have been the achievements of the student health units in our colleges, we must frankly admit that there is still room for improvement.

It is most regrettable that a number of institutions, including some of the larger ones, have not as yet developed departments in this field. For this failure, college administrators and physicians must share the blame. Some administrators have lacked the courage to resist obstructionist activities of doctors who are opposed to anything that smacks of socialized medicine. At the same time there are medical men

in college communities who may rightly be criticized for their unwillingness to subordinate their own interests to the greater good, or, at the very least, for their inability to see that, generally speaking, student groups are an unimportant financial asset to the practitioner. There is need here for more missionary work, looking toward the conversion of both college executives and doctors.

Deplorable as is this situation, our schools also have been derelict in meeting their responsibilities for the health of those who come to them for instruction. I refer to the failure of the colleges to develop sound programs of health education.

The student health service has up to this time been concerned almost exclusively with providing medical care in the restricted meaning of the term. Voluntarily or perforce, they have neglected teaching and thereby have provided the pound of cure but not even a full ounce of prevention.

As of about ten years ago, approximately one-third of our institutions were reported to require courses in hygiene. A few colleges have required such courses for many years. It is safe to say, however, that much of the instruction has not gained respect and support because it has not been given its proper place in the curriculum. The consequences are obvious. Too often treatment of the subject has been unscientific, unimportant and based upon empirical traditions, or it has consisted merely of opinions of uninformed and overburdened instructors.

One of the excuses given for the neglect of health education is the difficulty in obtaining adequate personnel. It is not easy to attract and retain well qualified physicians for the health programs as generally set up in our colleges. The modest salaries, the routine, and the lack of opportunity for specialization do not offer sufficient inducement to draw men and women from lucrative private practices. Nor, except possibly in small institutions, is the part-time service of physicians a satisfactory method of caring for student ills.

In my opinion the problem of obtaining adequate professional personnel could be simplified by recognizing that in our health program we need more from our doctors than clinical service. Specifically, I believe if the opportunity to participate in a sound program of health instruction were added to the privilege of practice, there would be adequate reasons and inducements for doctors to recognize student health work as an important area in preventive medicine and as a promising career.

SMALL COLLEGES in their personnel relations must emphasize comfortable wages, pleasant working conditions and congenial workers.

PERSONNEL: NONACADEMIC

CLARENDON SMITH
Business Manager, MacMurray College
Jacksonville, Ill.

IN MOST SMALLER INSTITUTIONS TODAY the personnel programs, if any, are a relatively unimportant phase of the business office. Of course, time and consideration are given to dealings with nonacademic personnel, but the multiplicity of responsibilities and the limitation of staff necessarily limit the thought that can be given to the interests of this group. Yet the college business officer is aware of the problems involving nonacademic personnel and would like to be able to improve the situation as it exists in his own case.

In this period in which labor and unions enjoy a position of tremendous strength and importance, the college that strengthens the relationship between management and employes and does everything it can to anticipate the needs of its nonacademic staff may avoid some of the headaches experienced by larger institutions. These headaches may carry with them serious inroads on budgets that would present a real problem to the small college.

WHAT CAN WE ACCOMPLISH?

A view of the situation at MacMurray College reveals that, although still small, we have experienced a tremendous growth in stature in a period of a little more than twenty years. In 1925 our enrollment included 259 regular students, our physical plant included five buildings valued at $578,000, and our endowment was a little more than $500,000. Today our enrollment has reached 775 full-time students, our campus includes sixteen buildings and forty acres of land valued at $2,500,000, and our endowment is more than $4,000,000.

During this time our staff has increased again and again until today we have more than 150 full-time noninstructional employes. These are the people who, in addition to operating and maintaining our physical plant and city real estate holdings, record all dealings with students, parents and business organizations and handle all funds and equipment involved in a yearly budget expenditure exceeding $1,000,000. The impressions these noninstructional employes make on students, parents and others who visit the campus are important, and they are carried far beyond the limits of our grounds. It is therefore essential that every person hired be considered with something like the same amount of care given to the hiring of a member of the faculty.

We are aware that the college of today is changing rapidly and that we must make changes in the conduct of employe relations. We have inflation problems, and we have the problem of how to keep adequate and competent help. Though in our case we do not have union troubles, we do have a changed worker with whom to deal.

Regardless of our problems, we must never lose sight of the fact that the college operates for the students. It is not operating for profit, nor is it operating for the faculty, the alumnae or the employes who prepare the meals and maintain the buildings. That prime factor must be made clear at all times to every individual connected with our institution.

The nonprofit institution, such as a college, is very different from the profit institution. It is the responsibility of the college to pay fair and livable salaries and wages. However, employes cannot look to the administration for higher wages as labor looks to industry. In industry, where the demand for a raise is made and met, it either comes out of the profits or is passed on to the consumer. In this period of lower rates of interest on endowment investments, increased costs of operation can be passed on to the student only. In keeping with the principles upon which education was founded, the costs to the student should be increased only when absolutely necessary.

In our employe relations we want at all levels employes whose abilities and attitudes are such that: (1) they come to work regularly, on time, and in an agreeable frame of mind; (2) they exercise their full skill, care and reasonable effort on work properly assigned, directed and rewarded; (3) they go home with a feeling of having been a part of what the college stands for and with a feeling of satisfaction that will make them want to continue in their work.

If these aims are to be accomplished, there is much we must observe in our employes. We need to learn what each wants in his job and in what ways his present job falls short. We need to learn to diagnose his likes and dislikes about his job and to know what he understands, misunderstands or just doesn't know about his job or the college.

We should help make employes feel they are important parts in our efforts to offer a broad, liberal education to the students who come to our school each year. Obviously this is not a simple task, but it can be done.

QUALITIES NEEDED

The real sources of good personnel relations lie in the hearts and the minds of the individuals who comprise the administrative staff. Friendship and accord can be built only on a firm foundation of mutual trust and confidence, and that principle applies to the relationship between management and employes.

Little progress can be made in achieving good personnel relations by just bearing good will toward employes. Attitudes must be transmuted into intelligent application if they are to be effective. Members of the administrative staff who supervise other employes should be conditioned for it through specialized training. Directing the work of others is a separate and distinct skill. Unfortunately, it is too often not acquired by individuals who through efficient execution of duties are elevated to positions of supervision. Therefore, those placed in supervisory positions should be given competent instruction on how to be of help to those under their jurisdiction.

The management qualities necessary to good personnel relations are, simply, genuine interest in other employes and skill in leadership and management. Other harmony-promoting measures will probably accomplish little without them.

If management is to be successful in ascertaining employe attitudes a definite philosophy must be developed, and there must be courage and willingness to develop and perpetuate good management-employe relations. This means getting close to the members of the staff, knowing them personally if possible, and finding out what they are thinking, wishing or wondering. This can be most successfully done by personal contact. If we fail to establish personal relationships in some manner, we can expect employes to turn to people or organizations outside the college for advice and guidance. That eventuality can seriously affect the relationship of administration and employe.

It is generally agreed that supervisory employes know pretty well the attitudes of their staff members. Valuable information about the needs of employes, working conditions, and the things that cause dissatisfaction can be easily obtained by occasional conferences with supervisors, whose daily contacts with employes constantly yield significant facts that are valuable in ascertaining employe attitudes. Supervisors must be trained to recognize these and to pass them on to those to whom they are directly responsible.

PROGRAM ANALYSIS

An adequate personnel program in a small institution is essential to harmonious relationships. It is the responsibility of the administration to plan carefully an adequate program, the nature of which will be determined, ultimately, or at least approved, by the president of the institution and the board of trustees.

There is no set pattern to follow; the program must be designed to fit the needs of the institution, with thought given to such things as the type of community and the type of individuals being dealt with. A small institution with a staff of less than 200 employes, located in a small city in a rural area, will require a program quite different from the program of a large institution with a staff of 2000 employes and located in a large, highly industrialized city.

ESSENTIAL ELEMENTS

In outlining the essential elements in a program, there are ten important steps. The first step is job evaluation. It involves a careful analysis of every job on the campus. Such study might reveal the possibility of substituting two well paid employes for three poorly paid employes and still realize better results.

The second step is fair wages and salaries. Wages and salaries paid must be kept in line with those of other organizations. Careful thought and consideration must be given to the matter of the local cost of living, and wages and salaries must be sufficient to meet at least the minimum standards.

The third step is good working conditions. This does not simply mean good tools, good lights, and good supplies. In addition, it means a fair length of time expected on the job, an adequate number of holidays, time off for illnesses, a vacation of fair length, ample time for meals, a place to clean up after work, and a place to relax a few moments or to smoke a cigaret.

Certainly every school should have arrangements for the care of employes who are injured or who become ill while working. If the institution has any type of health center it should be a simple matter to provide: (a) preemployment examinations; (b) yearly physical examinations for all food handlers; (c) periodic checkup service; (d) dispensary service.

The fourth step is good supervision. Those in charge must know what needs to be done and how it should be done. And they must be good leaders. A good leader must combine competent teaching and firm direction with patience, fairness and a genuine, friendly interest in the employe.

The fifth step is steady employment. Every employe wants to be able to feel that, as long as he performs his job, he will have steady work. Barring layoffs caused by economic necessity, he should have this assurance.

The sixth step is an adequate retirement plan and similar benefits. Since colleges and other institutions are not included in the social security program, it becomes the responsibility of every college to give consideration to such employe benefits as retirement plans, hospital insurance, and death benefit insurance. Just how far a school can go in developing these benefits depends a great deal on its financial strength.

A recent survey revealed that of a group of about 300 colleges consulted, 50 per cent had some sort of retirement plan for nonacademic personnel. A majority of this group had a hospital insurance plan available to the

KEEPING HOUSE for a small college is an interesting and dignified domestic undertaking.

employe at his own expense. Only a few provided similar opportunity for group insurance for medical and surgical expense, and only about 20 per cent provided death benefit payments to dependents.

The seventh step is opportunity for education and training. By making use of the facilities of the college, employes should be encouraged to further their education or to receive some training that will enable them to advance themselves in their work. Any organization with a large group of employes needs a training program to ensure good operation. To develop and maintain a good operating organization we must equip our employes with the skills and methods necessary for the efficient and the effective performance of work assignments. Training takes time and money, but it increases efficiency.

The program is not too complicated. It can be suggested here in five steps: (1) orientation program for new employes; (2) specific job training; (3) training in supervision; (4) training in safety; (5) training in public relations.

The eighth step is the establishment of a grievance procedure. Since emotions cause many of our difficulties, it seems advisable that an employe be made to feel that he can express his grievances to someone and be assured of some satisfaction.

The ninth step is effective administrative practices. One person should have the responsibility for developing and effecting the personnel program, and he should have sufficient organization status to enable him to carry out that program.

The tenth step is employe information. Progressive organizations recognize that it is important to communicate information to employes. Employes of a college should be interested in learning about its history, about its growth, and about the things it stands for. The information to be passed on, perhaps in booklet form, might contain facts about the college, such as a brief history of the college and an account of its educational opportunities, its organization, plant, financial condition, progress and development, future plans, and a map of the campus. It should also discuss college-employe relations. That phase would include terms of employment, working conditions, employe benefits and services, health service and sick leave, vacations and, very important, instructions on emergencies.

CONCLUSION

In viewing the total picture of the small college of today, it becomes apparent that a new phase of its operation is developing rapidly and must be recognized as capable of adding much to the effective functioning of the institution. This new phase concerns the nonacademic staff.

As a preliminary to putting to use the capabilities of the nonacademic staff, we must study and understand its specialties and peculiarities. Neither the associations nor the functions of the nonacademic staff of any college are those commonly found in industry; that is, the people among whom our workers daily move are not entirely their fellow workers. They are, on one hand, academic students who are frequently much younger than the workers themselves and, on the other hand, they are academic faculty members who are sometimes more learned in theoretical and historical subjects than the workers are.

Obviously, such employes are not in the ordinary world of industrial labor. Instead, they are in a world where politeness, not servility, and character, not egotism, take precedence.

A maid in a dormitory may quietly teach manners to a college; the manager of a campus store may build up a treasury of curios, and the man in the boiler room may become a wise counselor to young and old.. We can and must try to emphasize comfortable wages, interesting and encouraging working conditions, and congenial and loyal workers, in the essentially dignified domestic undertaking of keeping house for a small college.

WE SEND OUR CUSTODIANS TO SCHOOL

J. J. WENNER
Assistant Superintendent
Buildings and Grounds Department
University of Cincinnati

EVERY SCHOOL, COLLEGE AND UNIversity is founded on the basic idea that all education pays rich rewards to its students, whether these be political, cultural or financial. Industry has further shown that specialized education of its employes pays high dividends to the stockholders, yet how many schools of higher learning live "so close to the trees that they can't see the forest"?

Stating it in another fashion, how many colleges and universities, with all of their wealth of educational know-how, use this knowledge to solve some of their everyday problems, and to save themselves money to boot? The answer is—too few.

For an example of how training can be made to work at home, take the case of the janitorial division, buildings and grounds department, at the University of Cincinnati. This division, like so many others at the university, grew by leaps and bounds, and the problems of proper supervision raced right along with this rapid growth. It no longer was possible for the head custodian to oversee the entire job, so most of the everyday supervisory problems were turned over to the custodians in charge of the cleanliness of the various buildings.

These men had long years of experience in all types of cleaning procedures, had the best available tools and materials to work with but, in the majority of cases, were lacking in supervisory experience. This led to all sorts of complications, which can be well imagined.

To correct this situation, it was decided to put on a series of discussions (the word lectures was studiously avoided) on supervisory problems, which would bring out our own actual problems and cases as much as possible. Sound films on "The Problems of Supervision," as prepared by the U.S. Office of Emergency War Training, were borrowed and formed the basis of our discussions.

Borrowing an idea from the military services, namely, that most everyone will read the comics but only a few will read textbooks, we prepared loose-leaf sheets, written and illustrated in a comic manner. These were issued at each discussion and kept in binders for future use.

Discussions were held once each week for seven weeks and were formally limited to two hours. So interested were the custodians in seeking answers to their own problems, the meetings usually lasted from two and a half to three hours. Twenty-five men and one woman (head maid) attended these discussions; the response was most gratifying.

A list of the subjects covered includes: (1) introducing a new worker to his job; (2) instructing a new worker on the job; (3) being a good leader (part 1); (4) being a good leader (part 2); (5) planning and scheduling work; (6) supervising all types of workers, and (7) review.

A typical discussion went like this:

1. Short quiz of the true-false and multiple choice types, covering the previous week's discussion. Time limit, twenty minutes.

2. Introduction to the subject being discussed.

3. Showing of film pertaining to the subject at hand.

4. Discussion of the film, bringing out actual problems and cases whenever possible. In this phase of the program the custodians were prompted to do most of the talking.

QUIZ FOR MARCH 10 NAME..... GRADE.....

TRUE OR FALSE (Put an X in the correct column on the True or False Test)

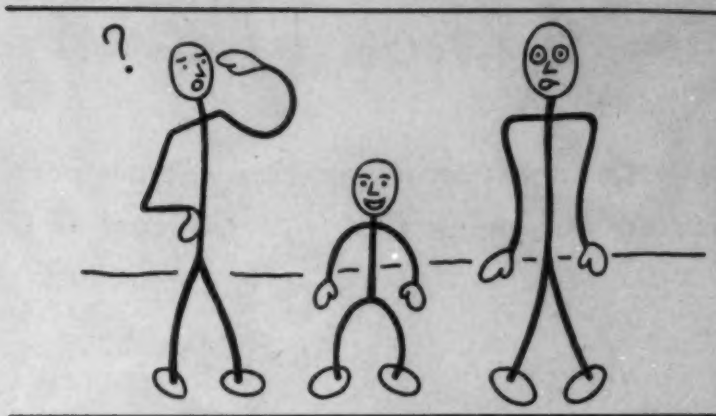
	True	False
1. Don't bother to tell the new employe where his job fits into the complete picture.		
2. Let the new operator perform the operation several times in the presence of the instructor, and then be sure he is doing it correctly before putting him on his own.		
3. When an employe does something wrong, bawl him out no matter who may be there to hear you do it.		
4. When your men do a good job, let them know about it and encourage them.		
5. Point out all safety rules and regulations of the job and of the building.		
6. Be brief and rapid in explaining a new job so as to save as much time as possible.		

MULTIPLE CHOICE (Circle the correct letter in this test.)

7. In greeting a new employe:
   a. Be pleasant and cheerful and rise to shake hands with him.
   b. Keep right on with what you are doing and say, "Glad to meet you."
   c. Be grouchy and say, "Now why did they send you up here?"
8. On a new job:
   a. Give a hurried explanation of the job.
   b. Explain each step of the job in detail.
   c. Tell the man you want the job done with no explanation as to how to do it.
9. The retirement system is:
   a. Just another way for the office to take more of your pay away from you.
   b. Only benefits you if you die.
   c. A worth-while means of saving your money as well as protection for you and your family in your old age.
10. Salary advances are not given because:
   a. It is too much trouble for our office.
   b. We don't know if the employe will work long enough to cover the advance.
   c. It is illegal to give them.

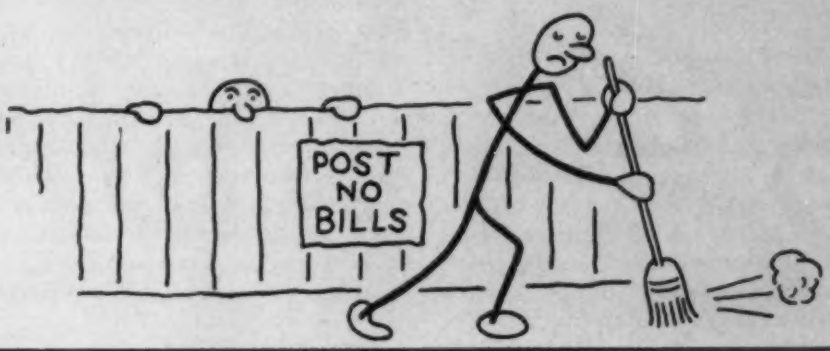
SUPERVISOR'S TOOL KIT

1. **All workers are not alike. Each must be handled differently.**



2. **Don't oversupervise. Oversupervision can be as uncomfortable as a strait jacket, and the worker just as productive as inmate wearing same.**

3. **Don't be a snoopervisor. Snooping, like quinces, leaves a "bad taste" in the worker's mind.**



4. **New workers require special attention.**

5. Issuance of illustrated lesson sheet, which was used as a basis for review.

Quiz grades and absences were recorded and, at the end of the final discussion, a certificate was awarded each custodian showing that he had successfully completed the course. The individual's class standing was lightly penciled on his certificate, it being judged unwise to publish such facts.

Examples of the types of quizzes and study sheets are illustrated here.

Inasmuch as this type of program was new to us, and the number of persons involved was fairly small, it was judged best to limit the expense as much as possible. Hence, all the printing and illustrating was done in our own department using a duplicator.

The intrinsic gain to the university for this type of program is, of course, hard to evaluate, but we do know that our supervision problem has greatly diminished and we can reasonably expect improved janitorial service to follow.

ADMINISTRATION OF *Endowment Funds*

How the inclusion of equities in trust portfolios has aided in holding income in line with the cost of living requirements

HARRY L. WELLS
Vice President and Business Manager
Northwestern University

PART 3

IN THIS SECTION WILL BE PRESENTED a comparison between the cost of living and the amount of income received by investors over a period of years from a group of high grade securities and from real estate. A cost of living index is taken as a measure of the salaries that must be paid by a charitable institution in order to function effectively, and yields on high-grade investments show the varying ability of different sources of income in meeting these necessary expenses.

ACTUAL YIELDS

Chart 1 shows the average annual yields on ten high-grade common stocks, ten high-grade preferred stocks, and ten high-grade bonds from 1928 through 1947. In general, this has been a period of declining return from investments and the trend is clearly indicated on the chart. The greatest degree of decline is registered by the bond curve.

During 1928 and 1929 it should be noted that common stock yields were substantially lower than those on bonds or preferred stocks—and this in spite of the greater risk element basically inherent in common equities. This anomaly was caused by the extremely optimistic frame of mind of many investors at that time toward common stocks, which produced freak conditions. Chart 1 indicates that the average yield in 1929 for bonds was 4.90 per cent; for preferreds, 5.05 per cent, and for commons, 3.67 per cent.

By 1932 the great decline in the stock market had increased yields on these common equities to 8.01 per cent, on preferreds to 6.20 per cent, and on bonds to 4.93 per cent. In 1933 the cumulative effect of several years of poor business reduced dividend disbursements to a low ebb while the price level of equities began to reverse its downward trend, thus forecasting a brighter earnings picture. The divergent movement between dividends paid and market prices caused average yields on equities to fall to approximately the yield on high-grade bonds.

From 1936 through 1947 the yields on the common stocks stood well above the yields on the other two investment mediums. The preferred stock yields moved in close harmony with the bond yield curve, ranging in a band from 0.70 per cent to 1.00 per cent higher.

YIELDS ADJUSTED

For the entire twenty-year-period, using annual average high and low prices, the common stock group yielded 5.06 per cent; the preferreds, 4.53 per cent, and the bonds, 3.77 per cent.

Actual return on security invest-

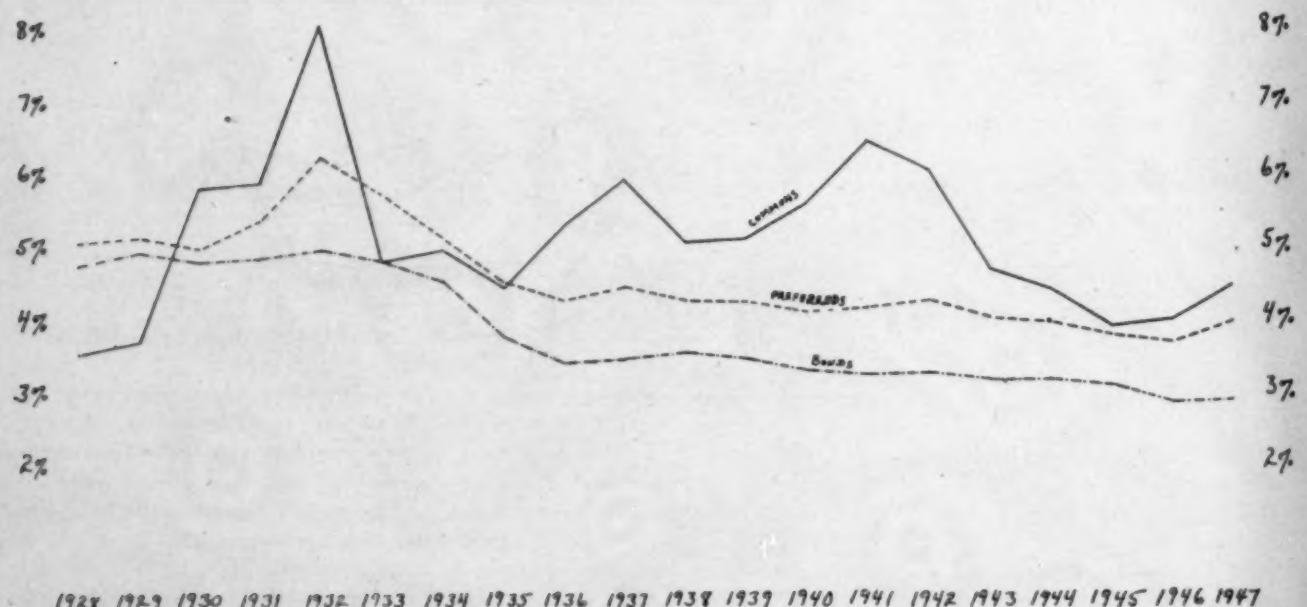


CHART 1—Average annual yields for ten investment quality bonds, preferred stocks, and common stocks, 1928-47.

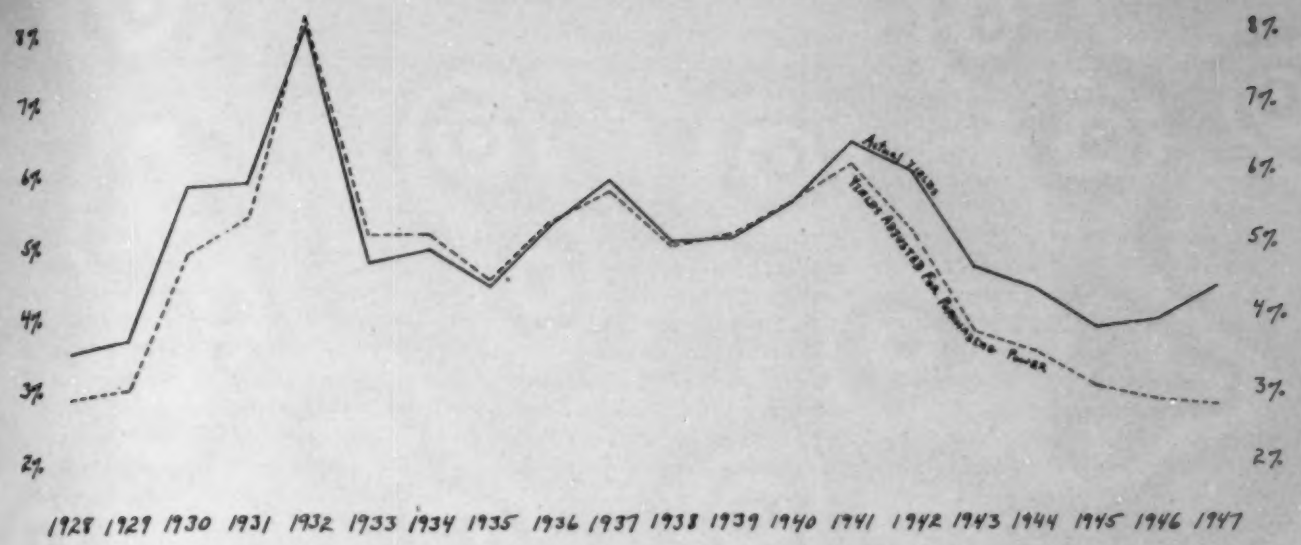


CHART 2—Yields on ten investment quality common stocks, 1928-47 (actual yields and yields in terms of 1935-39 purchasing power).

ments is affected, like all other income, by the changing value of the dollar. High yields during one period might be so counterbalanced by a proportionately higher cost of living that, in terms of buying power, yields would be depressed.

It seems important, therefore, to indicate how well cost of living requirements from 1928 through 1947 could have been met by a well diversified investment program that included equities. This is done by dividing actual average annual yields by the consumers' price index for moderate income families in large cities, as computed by the bureau of labor statistics (1935-39=100). We may call this series *real* income (based on 1935-39 prices). We may call yields based on purely dollar return *actual* income.

It is real income that is of primary importance to an endowed institution and that must supply both the institution and its employes with sufficient money to meet current cost of living requirements.

Chart 2 compares 1928-47 common stock actual yields with the real income obtained from these stocks over the same period. From 1928 through 1931 real income was in a range from 0.60 per cent to 0.90 per cent less than the nominal or actual yield. From 1932 to 1940 the two curves were very close with a small differential in favor of real income in the years 1932 to 1934.

Since 1941 the spread has widened out with real income declining far under the actual yield curve. In 1947 the nominal or actual yield on the ten high-grade stocks amounted to 4.39 per cent, whereas in terms of 1935-39 purchasing power, this was a return of only 2.76 per cent, a differential of 1.63 per cent.

A comparison of real and actual income from high-grade preferred stocks, high-grade bonds, and mortgages followed the curve of chart 2 so closely that it was felt unnecessary to include charts of this other income. In 1947 the yield differential between real and actual income for preferred stocks was 1.45 per cent and for the bonds was 1.05 per cent, with real income below actual income in both cases. For all three groups in 1947 real income in terms of 1935-39 purchasing power was about 37 per cent below the actual computed yields.

We believe that a large portion of the present high price levels has now been permanently frozen into the economy and that the differential between the two curves, therefore, represents a continuing condition of serious import to all charitable endowed institutions. These curves show clearly the tremendous pressure on investment management to increase the return on the portfolio.

Chart 3 shows the rent and cost of living indexes from 1921 through 1946 (1921-38=100) as computed by the service of Roy Wenzlick and Company. The rent index is based on national

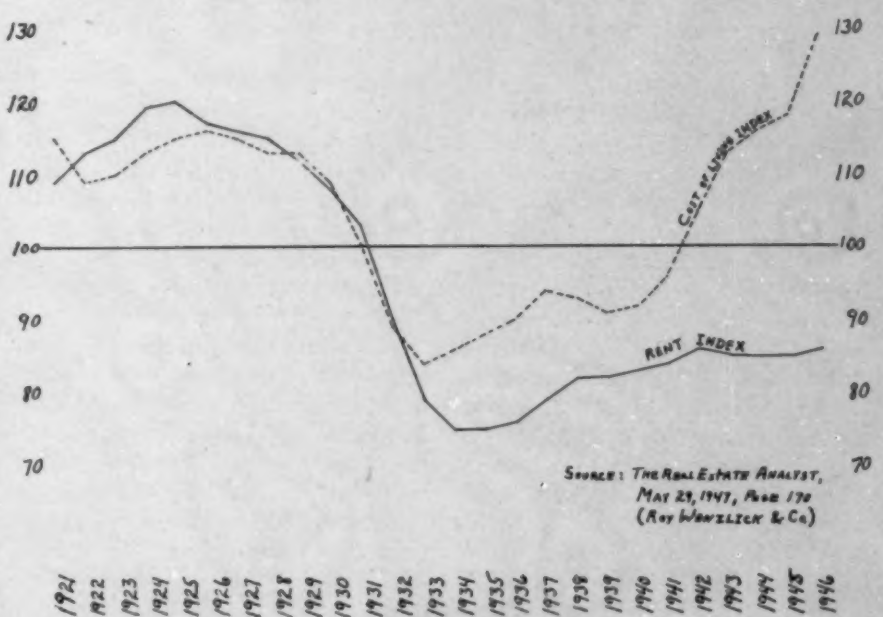


CHART 3—Rent and cost of living indexes, 1921-46 (1921-38=100).

average figures. From 1921 through 1932 both indexes moved rather closely together. But, from 1933 through 1946 the cost of living index rose much faster than the rent index, indicating that rental income became progressively less able to satisfy cost of living requirements.

During the 1933-46 period the rent index rose only about seven points, whereas the cost of living index rose about forty-five points. In 1946 the cost of living index stood at about 129, and the rent index stood at 86. The net income to the investor from rents would make an even poorer comparison than the foregoing, since the foregoing figures do not consider the rapidly rising operating expenses applicable to rental property.

Both the chart showing security income and that showing rental income demonstrate the fact that the investor for a charitable institution, where a large salary roll is to be met, must today do everything possible to increase income. As common stocks return a larger income than bonds or preferreds in most years, investors will be justified in relying upon common stocks to an increasing degree, and such an avenue will prove effective provided a long-range plan is adopted for overall portfolio management.

Common stock has become an essential in trust investing if income is to keep pace with the rising trend of the cost of living and if a hedge is to be established against the dissipation of the principal of the fund.

PLAN IN BRIEF

The permanent endowment portfolio of a charitable institution has as its basic purpose the generation of sufficient stable income on a long-term basis to enable the institution to minimize the effect of business cycles and of the changes in the buying power of money.

The fast rise in the costs of such institutions in recent years has encouraged the consideration of a large common stock portfolio and substantial commitments in real estate. The increasing reliance on common stocks has made it imperative that some form of investment plan be adopted which is superior to that of the "static long-term holding plan" or the "all judgment plan" formerly popular with large numbers of investment managers.

In this quest for a better type of investment program many formula plans have been developed by different charitable institutions and investment counselors. The success of these plans seems to be based on the following advantages:

1. A plan gives an investment manager a basis of operation which is purely objective and, therefore, independent of the general market psychology of the moment.

2. The existence of a plan prevents the formation of concentrations by ensuring adequate diversification of the security portfolio as to industry and company and, in the case of bonds, prevents a concentration in any one maturity group.

3. A plan forces action on the part of the fund manager or committee to realize some capital gains and also to trim back or eliminate weak securities during periods of market strength.

4. Most plans, by virtue of the inclusion of common stocks and short-term bonds in the portfolio, ensure flexibility regardless of the market direction. A high stock-market price level will permit the realization of capital gains, whereas a low stock-market price level will offer the opportunity to make favorable purchases of equities.

The plan outlined in this series of articles is based on the premise that each security purchased represents a good value when measured by proved earning power capitalized on a reasonably long-term basis. Sales are made when the price obtainable on a particular item appears to be well in excess of its long-cycle investment value.

The signal for either selling or buying is indicated by a deviation of the market price of the total stock portfolio either above or below an established goal. The degree of deviation permitted before action is taken is left to the discretion of the group managing the plan. The program is, therefore, a formula plan based on the action of individual securities in relation to their long-cycle investment values and provides the flexibility so important to an ever changing economy.

STATEWIDE SAFETY PROGRAM

EXPANSION OF THE UNIVERSITY OF California's statewide safety program is well underway to keep pace with the unprecedented postwar growth of the university.

Definite steps to achieve maximum efficiency in the operation of the university's safety program are (1) the establishment of the safety division, a central safety agency, to achieve maximum emphasis in safety matters throughout all university levels, and (2) provision in the 1948-49 budget for funds to expand this university-wide safety unit for the protection of the health and safety of students, academic and nonacademic employes, and visitors to the campuses.

Functions of the safety division include:

1. Coordination, integration, codification and standardization of safety matters as they affect individuals, buildings, installations, areas, operations and activities of the university.

2. Rendition of assistance and advice relative to safety measures, equipment and devices.

3. Formulation of university safety codes, regulations and programs.

4. Initiation and coordination of local safety inspections and reports.

5. Initiation and coordination of university safety publicity programs and campaigns.

6. Circulation and distribution of safety announcements, bulletins and literature.

In the exercise of these functions, the division is authorized to request other agencies of the university for assistance and technical advice. Its goals are to raise even higher the already high safety standards of the university.

Impetus was given to the establishing of a statewide coordinated program by the fact that the University of California has eight campuses, among which there existed no overall administrative unit charged with the responsibility of informing all campuses of safety procedure improvements developed on individual campuses. This problem has become increasingly acute with the postwar expansion of instruction and research, notably in fields requiring radioactive materials, and with the addition of some 357,000 square feet of temporary, nonfireproof housing for classrooms, laboratories and offices on the eight campuses.—FREDERIC O. GLOVER, *University of California.*

STUDENT FEES FOR HEAT AND POWER

M. M. CHAMBERS
American Council on Education

MANY YEARS AGO, IN THE 1880's, the regents of the University of Wisconsin found themselves short of money for operating expenses and barred by law from charging fees for tuition. They resorted to the device of charging all students a small fee for the heating and lighting of classrooms. This charge was contested in court but was sustained by the highest tribunal of the state, and thereby a precedent was established that has been followed in several other states, down to this day.

A generation ago the University of Washington at Seattle financed the construction of a science building by charging a special fee for that purpose against all students, and the method was upheld by the state supreme court. More recently the University of Texas financed a student union building by the same method.

The most recent recurrence of this idea appears to be in Oklahoma, where in 1948 the regents of the University of Oklahoma issued bonds aggregating $1,800,000 to construct a complete heating and power plant for the entire university. The bonds are payable only out of the fund to be created by the assessment and collection of student fees, plus certain anticipated net earnings of the power plant, and thus conform to the "special fund doctrine" and create no debt against the state or the university.

A legislative act of 1947 was evidently intended to authorize the transaction specifically, but the validity of the bonds was doubted by two dissenting justices of the state supreme court, though no private party questioned it.

The difficulty resulted from the complexity of the resolution of the board of regents, caused by the fact that provisions for payment of costs of maintenance, insurance, replacements, repairs and extensions, as well as operation of the heating and power plant, were commingled with the provisions for the payment of principal and interest on the bonds issued for its construction.

Fees charged for services to auxiliary enterprises of the university may be applied to insurance, replacements and repairs of the utility, and there is provision that if all the sources of income heretofore mentioned are insufficient, the regents may in their discretion apply state-appropriated funds toward maintenance and operation; or if not, they may in their discretion charge an additional student fee for that purpose.

In the view of the chief justice and three of his colleagues, constituting a majority of the court, the arrangement for payment of the bonds may be considered to be cleanly separated from the matters relating to operation and other current expenses, and, thus considered, the bond issue unquestionably meets all requirements of the law and is valid. But in the view of the two dissenting justices, the clean separation is not possible because the operating income of the utility is mentioned as one contingent source of the fund for the payment of the bonds, and there is provision for possible application of state funds to the cost of operation; hence in a somewhat remote and indirect sense it could be said the bonds amount in part to a pledging of state funds.

The dissenters admitted that they did not know precisely what was meant by "auxiliary enterprises of the university," but remarked that if such enterprises were sustained out of state revenues, then charges against them would be in effect another contribution of state funds to the income from the operation of the utility.

As a matter of fact, auxiliary enterprises are usually understood to include dining halls, bookstores and a variety of similar undertakings catering to the convenience of students and faculty, usually operated on a nonprofit basis and sustained by charges to their patrons, most of whom are students. Thus the prospective service charges for light and power to the auxiliary enterprises will probably merely amount to an added indirect charge to the students and will not involve any use of state revenues, as feared by the dissenting minority of the court.

A subsidiary issue that was also viewed differently by the two groups of justices may be stated as follows: Conceding that the students of the university may be charged fees for university heating and power when the plant is completed and in operation, can these fees be properly charged to students in attendance at the university during the period of an estimated eighteen months between the issuance of the bonds and the completion of the plant? In other words, can students now in attendance be charged the fee for a service which they are not now receiving and which some of them will never receive?

Presumably the university buildings are now served with some sort of heating and power, though not from the projected new plant, and presumably they will continue to be so served until the new plant goes into operation, and this takes most of the force out of the question.

The majority of the court considered the question and decided that the charge is legitimate, because in all bond-financed undertakings a timely beginning of the stipulated method of collecting the fund for payment of the bonds is essential.

Conceding that the case is not the same as where bonds are to be paid out of taxes, the court remarked that it is the general practice to begin the levy of the specified taxes promptly upon the issuance of the bonds, and before the taxpayers have any opportunity to use or benefit from the structure financed by the bonds.

Thus the University of Oklahoma bond issue is judicially approved by the state's highest tribunal.* Whether it is socially wise in the long run to put a university heating and power plant into the self-liquidating category by charging student fees for heat and power is an open question.

*Application of Board of Regents of University of Oklahoma, (Okla.), 195 P. 2d 936 (1948).

SEVEN KEYS TO GOOD MANAGEMENT

ALTA B. ATKINSON
Manager of Food Service
Teachers College, Columbia University

THE MANAGEMENT OF ANY ENTERprise involves a complete understanding of policy and the setting up of a system of controls for coordinating the many divergent interests that must be unified if the enterprise is to operate successfully.

Food service in colleges and universities has a peculiar significance in the whole academic picture. The morale value of good food in a pleasant and harmonious atmosphere ranks ahead of, and is very often the reason for, successful financial operation. Students will not spend their money in the small shops along the side streets if they like the food and the atmosphere of their college dining rooms.

FORMULATION OF POLICY

The formulation of the policy takes place at the administrative level. Determination is made concerning to what extent subsidy will be furnished by the institution. Often this is expressed in terms of rent, heat, light and water. When bonds have been sold for the construction and furnishings of the building, a percentage of income may be set aside each month or year for the payment of interest and principal. It is also usual to set up a fund for the replacement of large equipment and a depreciation fund for repair, maintenance and replacement of small equipment. When the policies are definitely established, then the budget may be constructed.

BUDGET

The budget is an important tool of management, based on experience and growth within the food service operation. When figures from past experience are not available, the budget may be only an estimated forecast of income and expenditure, but it is a guide for management and lights the way for better control when economies are necessary.

Budgeted items usually fall into three classifications: (1) raw food cost, (2) salaries and wages, and (3) other expenses. Included in the second item are the following expenses: employes' meals, workmen's compensation, retirement annuity expense, and vacation pay reserve. Item No. 3, or "other expenses," will include such things as laundry, cleaning supplies, office supplies, fuel, ice, flowers and advertising. Also included in this group are replacement fund expense and depreciation expense.

In a food service operation that offers several types of services a budget guide should be made for each type of service. For example, the picture in a cafeteria will be different from that presented either in a service dining room or in a soda fountain or snack bar operation. Special catering is usually done in conjunction with, and often by, the same personnel that functions also in the operation of either the cafeteria or the service dining room. Therefore, careful and detailed costs should be studied in connection with

the catering to be sure it is carrying its own weight rather than that it is being carried by the service with the greater volume of business.

COST CONTROL

It is management's function to know what may be expected by way of income. In a residence hall in which students pay board by the semester income is accurately determined at registration time. However, in a cafeteria operation income may only be estimated, and it is based on a study of the average check. In other words, the average check is an indication of how much the student is willing or able to spend for food.

Cost control is directly related to income rather than to cost. The manager in our competitive economy cuts the pattern to fit the cloth. Costs, of course, do influence the price charged, but they must be determined with full awareness of the maximum income that may be expected. Any additional business that may be done beyond the point at which cost and income converge produces the profit.

In our fluctuating economy it may be necessary from time to time to change the pattern of the service. It is well to have the layout of the food service operation designed to permit some variety in the type of service offered. Easy contraction or expansion of service permits operating adjustments that may be essential with a fluctuating registration or student patronage. A layout that must be staffed by fifty, whether it is serving 2000 or 5000, has not been well designed, and management is greatly handicapped when retrenchment is necessary.

MANAGEMENT CONTROLS

Too much emphasis cannot be given to the importance of the menu. The person responsible for this must be fully conversant with the market, must be well aware of the food cost percentage allowed by the budget, must understand the full utilization of the available equipment, and must have a knowledge of the principles involved in merchandising food.

The menu is the showcase of the operation. The food offered is the result of all that goes on behind the scenes, and it is what keeps the customers coming back and the cash register ringing. This in itself stresses the great importance of menu making.

Quality production of food in quantity has as its foundation the standardization of the recipe or formula. A file of standardized basic recipes is an essential tool for quality and cost control. Changing personnel in the production area need not influence the quality of the food if standard recipes are used. Seasonal costing of the recipe will reveal when it is not possible to serve the item or when a price change must be made in order to maintain the food cost percentage.

The standard recipe is also the guide that the buyer follows to eliminate waste. If 400 portions of an item are to be prepared, the buyer, by consulting the recipe, knows immediately how much of each ingredient must be ordered. Overbuying and overproduction are two of the costliest errors that a manager may permit.

The most satisfactory way to keep the hand on the pulse of the operation is to know the daily food cost percentage. Involved in this is ordering all foodstuffs to be used in each department on requisition. These requisitions may be written by the supervisor or the head of each department. They are priced in the accounting office and within twenty-four hours the manager knows (1) the cost of the food used in each production and service department, (2) the income for the day, (3) the income to date, (4) the food cost percentage today and (5) to date.

Inventory adjustment at the end of the month and the charging of employes' meals to labor usually drop the food cost from 2 to 3 per cent on the monthly report. The daily food cost is vital information for the manager and the menu maker.

EMPLOYE SCHEDULES

Equally important in food service operation is the effective utilization of labor. A careful analysis of the job to be done must be made first. Then the best use of the man or woman power available must be made in order to do the job effectively. Often the wasted time of the employe is due to the poor scheduling and planning of management. Frequent reviewing of both the job and the work of the employe on the job will clarify phases of the work and will result in the elimination of details that waste time and are unproductive.

Each employe should understand his own schedule of work as to both timing and general performance. He, or she, should also understand how the work he does fits into the composite in order to keep the wheels running smoothly. High living costs today place upon management a greater need for careful study of the work of each employe to be sure that he is doing his work well and is being paid a

Sample Budget

	Estimated		Actual	
Income	$325,000	100%	$344,382.00	100%
Expenses				
Food	162,500	50.0%	163,036.88	47.4%
Labor	136,500	42.0	151,082.45	43.9
Other operating	22,750	7.0	28,054.08	8.1
Operating Surplus	3,250	1.0	2,208.75	0.6
Labor Expense				
Salaries	26,000	8.0	24,237.14	7.0
Wages—regular	65,000	20.0	76,764.03	22.3
Wages—part time	17,875	5.5	20,378.89	5.9
Cost of employes' meals	13,000	4.0	13,466.67	4.0
Workmen's Compensation Insurance	1,625	.5	1,733.55	.5
Retirement Annuity Expense	4,875	1.5	6,005.74	1.7
Contingency Reserve Fund	1,625	.5	1,625.74	.5
Vacation Pay Reserve	6,500	2.0	6,870.69	2.0
	$136,500	42.0%	$151,082.45	43.9%
Other Operating Expenses				
Laundry	6,500	2.0	5,505.00	1.6
Flowers and Decorations			232.91	—
Cleaning Supplies	975	0.3	1,918.53	0.6
Office Supplies	650	0.2	628.12	0.2
Paper Goods	975	0.3	4,405.59	1.3
Repairs and Maintenance	1,300	0.4	2,144.13	0.6
Kitchen Utensils and Small Equipment	1,625	0.5	2,020.89	0.5
Gas and Oil	1,300	0.4	1,325.21	0.4
Ice	325	0.1	366.45	0.1
Replacement Fund Expense	4,875	1.5	4,877.15	1.5
Depreciation Expense for Large Equipment	3,250	1.0	3,251.44	1.0
Administration Expense	1,200	0.3	1,200.00	0.3
Miscellaneous			180.66	—
	$ 22,975	7.0%	$ 28,056.08	8.1%

living wage, not for wasting time but for being a productive part of the organization.

Whoever is in charge of personnel must be able to sell this idea to every member of the organization. The idea is not to get as much work as possible out of each individual but, rather, to have each employe cooperate to the best of his ability with every other employe in getting the work done.

SANITATION CONTROL

A piece of equipment that is carefully cleaned and regularly oiled or serviced will outlive by years a piece that is neglected. Aside from the health hazard involved in using a piece of equipment that is carelessly cleaned, the life expectancy represents dollars and cents saved if proper attention is given to maintenance.

Cleaning materials should be carefully controlled and requisitioned just as food is requisitioned; schedules concerning the use of cleaning materials are as important as work schedules for the employes who use them.

Laundry is a cost item that may get out of line as readily as any other. Whether the laundry is owned by the institution and is done on the premises or whether the laundry service is rented, uniforms and towels or kitchen cloths represent an item of expense that may be controlled. The setting up of an exchange system places the responsibility upon the employe, and when the system is understood by everyone it soon becomes routine.

It may not be necessary to have a full-time laundry attendant. Another employe may be scheduled to exchange clean for soiled uniforms at stated intervals each week, and towels may be checked out in the morning and in at night by a supervisor.

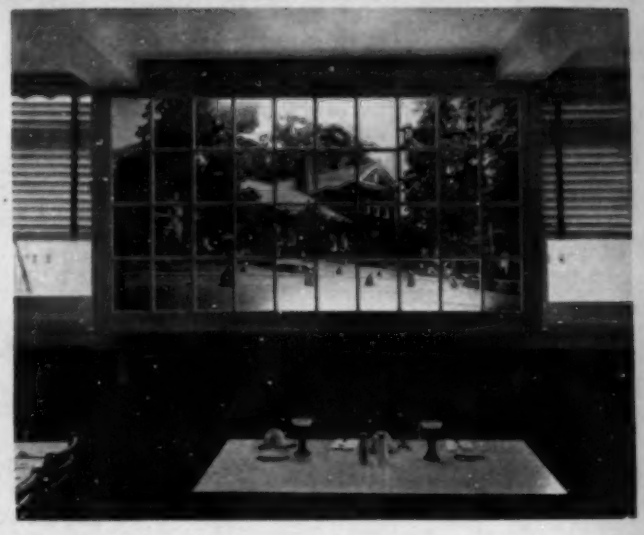
SUPERVISION

Great emphasis should be given to the importance of adequate supervision. This should not be considered unjustifiable expense, but should be considered essential in satisfactory management. Satisfactory management involves much more than staying in the black on the monthly report.

If the food service operation functions as an important part of the life of the student at college, if it keeps his morale high and his health good, if it does all this and carries its own weight financially, then the administration may consider that the department is functioning effectively.

"Window Murals" Brighten Hall

ERNIE RAUM
Director of Public Relations
Valley Forge Military Academy



Don't be fooled by the effect of windows. They are photographic murals instead, depicting local views and events.

A BRIGHT, CHEERFUL ATMOSPHERE is maintained 365 days of the year through the use of window murals in the cadets' mess at Valley Forge Military Academy, Wayne, Pa.

What were once plain painted walls in the expansive mess, capable of seating 1000, are now walls dotted with windows offering sunny-day views of scenery and activities on the Valley Forge post, located in the rolling hills where Washington's troops encamped during the Revolutionary War.

The views are natural color photographs enlarged by a Chicago photo firm to as much as 15 by 5 feet from small colored negatives. A thick board mounting, curved slightly in its setting, gives an appearance of depth to the picture. A Colonial window complete with glass frames the murals.

The entire project, accomplished at a small cost, is accented by the use of indirect lighting that sets off the sunny skies and beautiful views in the panorama in all their natural glory.

HOW ONE SMALL COLLEGE SETS UP ITS FOOD SERVICE

NELLIE GLEASON
Director of Foods, Grinnell College

AT GRINNELL COLLEGE, WE HAVE just completed equipping one of the most efficient kitchens, bakeshops and storerooms that any small college has the privilege to operate.

Our remodeling program took a great deal of preplanning, but by rebuilding, which included streamlining and reorganizing, we have dropped three or four positions in our kitchen alone.

Our women's dining room was adequate, and we decided to make the men's campus dining room and kitchen

large enough to accommodate normal enrollment only. (Our prewar enrollment was 800 and our present enrollment is 1150, but we hope to stay a small college.) At present we have two sittings for lunch and dinner in both men's and women's dining rooms.

The men's dining room is located on the north side of the campus, at the end of the men's dormitory system. The staff for this building is composed of a trained dietitian, two cooks, one cook's helper, two pantry or salad workers, two dining room employes, three dishwashers, and one pot and pan man. The butcher shop, which is on the men's side of the campus, employs a full-time butcher.

The bake shop and storeroom are located on the women's campus, which also houses the dining room and kitchen for women. A full-time baker and a baker's helper prepare all the bread, rolls, pastries and desserts used on the campus. We have one full-time storeroom man, one truck driver, and one handy man, whose duties include peeling potatoes.

The food service has its own truck, which is used for nothing but food service. Employed on the food staff is a full-time person to sort and mend linen before and after it goes to the laundry. The truck that services the two kitchens takes the bakeshop products to the north campus and returns with the meat products to the south campus. Each kitchen is equipped with adequate stoves, kettles, mixers, refrigerators and appliances so that it can be operated independently, with the exception of the bakeshop.

On the women's campus are a trained dietitian, two cooks, a cook's helper, two pantry or salad workers, two dining room employes, three dishwashers, and one pot and pan man.

All food department employes are hired by the food director, but a dietitian has the authority to fire an employe if it is justified. Employes are expected to keep their own units clean; they work much more neatly and carefully if they know they are expected to clean their unit when finished. Windows of rooms used by the food department are washed by food employes on slack days. The food department does its own housekeeping within the units it occupies.

Employes work a six-day week on a rotating schedule. Waiters and waitresses are granted one day a week in which they eat in the dining room as students and are part of the college life instead of reporting every day as a worker. We are asked to grant little sick leave, although each employe is entitled to six days per year.

Food department employes are provided with uniforms, and laundry of uniforms, and are furnished three meals a day. Hospitalization is optional on the college plan, or a person may carry his own policy. They all receive two weeks' vacation at Christmas time with full pay.

The only college sponsored get-together at the present time for employes of the food department is a dinner given by the administrative department heads in the dining room the night the students leave for Christmas vacation. This party is for employes of housekeeping, laundry, maintenance and foods, with the cooking done by the dietitians. It is one of the highlights of the year to have dinner in the students' dining room served by high school waiters and waitresses.

During the summer we take various youth conferences and Y groups. After this period of work is over, many women employes do not wish to work until school begins in the fall. The men we are desirous of keeping are kept employed at their regular rates but are sent to the maintenance and grounds department or join the paint

crews that are working on the campus. We have a very low percentage labor turnover in the food department. Employes take a great deal of pride in the part they have played in the modernization of their department. Inexperienced labor is started at $4 a day and at the end of the month if the worker shows a possibility of further development he automatically receives $4.40 a day. Further increases depend upon length of service and the economic situation in the locality, or promotion if a vacancy occurs.

STUDENTS PAY BOARD RATE

We use student waiters and waitresses in the women's dining room and student waiters in the men's dining room. Students pay board rate at the treasurer's office upon registration; no refund is made for meals missed in the dining room. If a student must leave college for a period of longer than two weeks, board is refunded, but room rent is not. We receive from the treasurer's office a list of students who are entitled to meals in the dining room, and since we are a small unit an unexpected guest is spotted fairly quickly.

The responsibility for the conduct of the waiters and waitresses belongs to the dietitian on duty. The responsibility for student behavior in the dining rooms belongs to the dean of men and the dean of women, who work with the food director in making the dining rooms, especially the men's, sound a little less like the echoes of a football field.

Grinnell students work through a governing student body: league board for women and council of house presidents for men. Through these groups the deans and food director work for proper student dress and manners in the dining rooms.

Because of crowded conditions we can take guests in the dining rooms only when students sign out through the dean's office that they will be out of town for various meals. At present our meal charges are 55 cents for breakfast, 85 cents for lunch and $1.25 for dinner. Tickets are purchased before meals from the food director's office, and the head waiters are notified before each meal who has legitimate guests and from whom to collect tickets.

The student rate of pay is 50 cents per hour for the first year, 55 cents for the second, and 60 cents for the third year. Head waiters and head waitresses are paid 65 cents an hour. Students' time is kept on time sheets by the head waiter, checked by the dietitian, and sent to the personnel office at the end of each semester. Students are paid twice a year. No credit or discount for meals is given because a student works in the dining room.

FOOD DIRECTOR SELECTS STAFF

Those students who wish to work make application at the office of the dean of personnel before July 1. When such lists are completed, the food director selects the staff for the men's and women's dining rooms. If for any reason an employe is dismissed from the food department, he may not be rehired on the campus. Sometimes a transfer to a more suitable position on the campus is made rather than dismissing an employe.

All purchasing of food, linen, china and equipment is made directly by the food director. She works with the administration and sets a budget in April for the following September based on past operation, the number of students, and the number of operating days. This budget includes food, labor, china, cleaning supplies, equipment repairs and replacement, rent and depreciation. In our case the food director is responsible directly to the president of the college, although she works with the director of accounts as well as with the treasurer.

All staples and canned goods are delivered to one central storeroom and are issued by truck at the request of the dietitian in the kitchen to her unit. All fresh fruit and vegetables and frozen vegetables are delivered directly to the refrigerator in the kitchen in the unit where they are to be used. The food office makes monthly reports of costs to the business office.

MENUS PLANNED IN ADVANCE

In September we usually plan the same menu in both dining rooms because we have so many date dinners (these are exchanges between halls approved by the social committee). After school has been in session several weeks, we plan a menu for men and another for women. Usually the meats and desserts are the same. All students may have seconds at each meal on everything except meat and desserts. Menus are planned by the food director, but substitutions are made by the dietitian in the kitchens if necessary.

Our policy is not to waste food. If we know students do not like certain items we try to serve them as few times as possible, and eventually they forget that several months ago they didn't like a certain item. We rarely make substitutions on the dinner menus. Breakfast and lunch are served cafeteria style and dinner is family style, with waiter service and in courses.

Students are students the world over, and without asking they borrow such things as china and silver from the dining room, and they complain when the stretch of time from Christmas vacation to spring vacation gets a little tiresome, but they have a wholesome, healthy attitude and if we are willing to sit down and explain why we must do some things one way and some another, they understand and accept it and often wonder why they didn't figure it out themselves.

WHEN STUDENT LABOR IS USED

V. L. KRETSCHMER

Director, The Illini Union
University of Illinois

AT THE OPENING OF THE 1946-47 school year, a new student wage plan, designed to minimize certain problems experienced in the employment of students, was put into effect in the Illini Union at the University of Illinois. This plan has been most successful in stabilizing student employment and has eliminated, or greatly minimized, certain objections that formerly were felt to be inherent in the employment of students.

It is the policy of the Illini Union to employ as many students as possible in its various departments. This policy is carried out only as long as it does not interfere with the union's discharging its primary function of service to the students, faculty and alumni of the university in an efficient and effective manner.

In most instances it is difficult for students to render services comparable to that of full-time employes. The primary objective of students attending the university is to gain an education; a job is secondary. That is as it should be, but it makes it difficult for the students to compete with regular full-time employes with respect to both wages and jobs.

Our level of student wages in most every instance is below that of full-time employes. It is not intended to discriminate against the students; in fact, commensurate with actual work output, most student wages compare favorably with the rate of regular employes. It is generally recognized that there are certain disadvantages in the employment of students. Some of these are beyond the student's control, while others can be corrected, depending upon the student's attitude.

We have found the major disadvantages to student employment in the Illini Union to be as follows:

1. *Split Work Schedules and Short Work Hours.* Because of class schedules and other demands on his time, some of which can be controlled, the average student can work only an average of an hour or two at a time. It is necessary, therefore, to employ three or four students to fill the job of one full-time employe. Our experience indicates that the output of a student working for one hour at a time is only 60 to 70 per cent of that of a person working a four-hour shift. Time lost in "getting ready for the job" and "getting ready to leave the job" makes a working period of an hour or two comparatively unproductive.

2. *Inability to Work Prearranged Schedule.* It is difficult for most students to conform to a prearranged work schedule. While intentions may be of the best at the beginning of the semester, it is not long before requests are made for time off to study for tests, to go home week ends, or for some other special reason.

Even more important is the tendency of most students to leave their jobs before the end of the semester with the excuse that they must prepare for examinations. While these requests may be justified from the student's academic standpoint, the inability of a student to work a prearranged work schedule throughout the entire semester is one of the main reasons why more jobs cannot be assigned to students, especially in the more responsible positions in the higher wage brackets.

The two disadvantages mentioned earlier are perhaps the most important. There are others. One of them is a general lack of interest on the part of the student in his work. This is perhaps natural since a job to many students is merely a temporary necessity and many times the attitude is that of putting forth the minimum effort to "get by." As a result, an increased work load is transferred to the full-time employe. We feel, however, that a majority of the students are anxious to do a good job and will do so with a little direction and incentive.

The plan put into effect at the opening of the 1946-47 school year is primarily directed toward minimizing the two major disadvantages experienced in the employment of students. The old, generally accepted plan of "working an hour for a meal" was discarded and students are scheduled to work longer periods at a time but fewer periods a week. They are required to arrange their class schedules (and most have been successful) so that they will have four or five periods during the week when they can work at least two or three hours at a time. In this way they accumulate practically the same number of hours over each weekly period as they would if they worked an hour at mealtime throughout the week.

Payment may be received by the student in either cash or meals. At the time of employment the student is issued a "food charge authorization card" which permits him to charge his meals. These meals may be taken at any time and student employes pass through the regular cafeteria line the same as does any other student.

In order to eliminate absenteeism on week ends and during examination

periods, students are offered a bonus on all hours worked during the semester, provided they conform to a prearranged work schedule arranged at the beginning of each semester. This bonus is paid in the form of cash at the end of each semester. The student indicates the hours he will work and signs an agreement with the supervisor that he will conform with this schedule throughout the semester. The only deviations permissible are those of illness, death in the family, or some other similar emergency beyond the student's control. The cash bonus amounts to 10 cents an hour (in a few cases 15 cents an hour) for all hours worked during the semester and by the end of the period, in many instances, it amounts to an attractive sum.

The response to the plan on the part of the students has been excellent. Since it began approximately 80 per cent of those students who signed up under the plan have completed their contract and have been paid a bonus at the end of the semester.

TOO HEAVY A LOAD

The reason for students dropping out of the plan in many cases has been due to their being too ambitious at the beginning of the semester in arranging their work schedule and taking on a load heavier than they can carry. The supervisor makes every effort in those instances to work out a more satisfactory work schedule and allow them to carry a reduced schedule under the plan, but in many cases this is difficult. Also, a large majority of those students who did drop out of the plan dropped out during the first week or two of work, before they had accumulated any appreciable number of hours. Once a student has worked long enough to accumulate a sizable number of hours, we have found that he will do his best to protect the equity he has established in the bonus at the end of the semester.

The following figures* indicate the general acceptance of the wage plan by the students:

No. enrolled in plan	1354
No. who received bonus	1053
Total bonus	$21,771.57
Highest bonus to any one student during semester	$80.52
Average bonus paid	$20.68

The wage plan consists of three parts: (1) a cash rate, payable in cash; (2) a food rate, payable in meals, and also (3) a bonus rate, payable in cash.

Cash Wage Rate. The cash wage rate is that paid in cash to all students who desire to receive this form of payment for their work.

Food Rate. A student may elect to receive all, or part, of his wages in the form of meals. The food rate is the amount of money credit that is allowed for food purchases for each hour of work. Any hours of work for which the student does not receive wages in the form of meals are paid in cash at the cash wage rate.

STUDENT PAYS EXCESS

In order to be paid in meals instead of cash, a student must be scheduled for a minimum of ten hours of work a week. The privilege of receiving meals in lieu of cash is premised upon the student employe consuming this food himself. The employe cannot apply the food rate to meals purchased for his wife, children or anyone else.

If at the end of any pay roll period a student has eaten $3 or more in excess of the amount he has earned at the food rate, he is required to pay the excess to the Illini Union in cash, or he will be refused further eating privileges until his earnings make up for the excess meals eaten.

The following example will illustrate the working details of the plan: A student works bussing dishes in the Commons for which the cash rate is 50 cents per hour and the food rate is 80 cents per hour. During the month the student works fifty hours. As payment he desires to receive part in cash and part in meals. He receives from his supervisor a food charge authorization that permits him to charge the meals he eats in the Commons. During the month his food charges amount to $32, which at the food rate of 80 cents per hour is the equivalent of forty hours of work ($32 divided by 80 cents per hour). Thus the student has received wages in the form of food for forty hours of work. The remaining ten hours (fifty hours minus forty hours) will be paid in the form of cash at the cash rate of 50 cents an hour. For the fifty hours of work during the month, the student has received $32 in meals and $5 in cash.

Bonus Rate. The bonus rate is intended as added compensation to the student for working a definite schedule throughout the entire semester and thus eliminates the high turnover in student employes. The bonus rate is paid under the following provisions:

1. A student employe must agree to work a definite schedule during the semester as indicated in the bonus contract that he signs for that semester. In general, this schedule covers the entire semester including the final examination week, but excluding the regular vacation periods.

2. The student must work the hours required by the assigned schedule. If he fulfills this schedule all during the semester, he receives the bonus. However, a student is not signed under the bonus plan unless his weekly schedule calls for a minimum of ten hours of work a week. Exception to this provision may be made in those job assignments that do not require this number of hours a week.

3. The student must not vary from the assigned work schedule without the approval of a supervisor.

4. The student must not be absent from work except in emergency circumstances, *i.e.* illness verified by certificate from the health center or a death in family. In such instances the student must notify his supervisor as soon as possible that he will be absent from work.

5. The student is paid the bonus rate for all hours worked even though he worked more hours than required by his schedule. The wage rate under which the student has been paid during the period, either cash or meals, does not affect the bonus payment.

6. Bonus payments are not made until after the end of each semester.

7. The Illini Union may terminate any student's employment at any time without bonus payments for reason of incompetence, insubordination or unsatisfactory service.

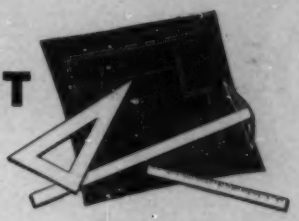
8. The Illini Union may terminate a student's employment before the end of the agreement period for the convenience of the Illini Union, but under such circumstances the student will be paid the bonus rate for the number of hours worked up to the time of dismissal, provided he has carried out the other provisions of the agreement.

9. The student employes in the food service department must have a food handler's certificate in order to participate in the bonus plan.

10. The student employe must sign the student bonus agreement before the end of the first six weeks of each semester. Normally, the supervisor will see that this is done, but it will be the student's responsibility to sign the student bonus agreement on time.

*Figures cover the period from the first semester of 1946-47 school year through the summer session of 1948.

Cafeteria PLANNING AND LAYOUT



A. G. FRANCIS

Director of Dining Services
Illinois Bell Telephone Company

THE CAFETERIA IS THE MOST INtricate of all the facilities in a building program, and the most expensive to install. Moreover, substantial operating costs are involved. It is highly important, therefore, that it be properly engineered. In its design, special skills and much care are involved.

Thus, the usual practice, after determining the size of the cafeteria, the type of layout, the amounts and general characteristics of the equipment, and the overall arrangement of the equipment, is to obtain expert assistance from persons well qualified in this specialized field. Such assistance is available principally from cafeteria consultants and outfitters or from architects who call in such persons in an advisory capacity.

The work of these specialists includes the preparation of floor plans showing the best possible arrangement of all the equipment in the space to be used, and the preparation of written specifications covering the equipment. After the contract has been awarded, the cafeteria equipment supplier submits for approval final floor plans detailing the exact size and location of each piece of equipment and the location, size and type of service connections, together with shop drawings showing the way in which he proposes that each piece of equipment be fabricated under the specifications previously supplied.

DETERMINING SIZE

To determine the size, it is first necessary to establish the maximum number of seats required simultaneously in the period for which the cafeteria is engineered. Various factors influence the use made of the cafeteria, such as the number of breakfasts, lunches and dinners to be served, and whether the cafeteria is to be open for in-between snacks.

After the number of seats required is established, size is approximated by allowing from 30 to 35 square feet per seat. The total area is then divided as follows:

1. Approximately 15 square feet per seat is provided in the seating area and passageway along the front of the counter. This provides space for all of the furniture and equipment and for moving around in the room.

2. From 15 to 20 square feet per seat is provided for the following areas: counter, serving space back of the counter, back bar kitchen if there is no separate kitchen, or back bar plus kitchen if there is a separate kitchen, dishwashing, storeroom and employes' locker room.

The exact size of the cafeteria and its subdivisions is then established by taking a floor plan of the space to be used, plotting in the furniture and equipment, and modifying the tentative space if necessary on account of the characteristics of the space to be used. In unusual cases where the space is difficult to arrange, somewhat more than 35 square feet per seat may be required.

TYPES OF LAYOUTS

Two types of layouts may be used—the open, or Dutch, kitchen and the enclosed kitchen, each of which is described.

Open Kitchen. This type of layout (Fig. 1) is used when the seating area contains about 100 seats or fewer. It consists of a back bar kitchen, a counter located from 4 to 5 feet in front of the face of the back bar, a storeroom at one end of the counter, which is usually a good location with respect to deliveries and accessibility to employes, and dishwashing space at the opposite end of the counter, which is the end last reached by the patrons. Such location for the dishwashing area avoids the necessity of those with soiled dishes crossing the path of incoming customers. The seating area is directly in front of the counter.

The open kitchen type of arrangement is compact and provides for maximum efficiency of operation among the relatively small number of customers and anticipates that bus service will not be furnished.

In the open kitchen type of layout, the wall arrangement is as follows:

1. The storeroom is enclosed with a floor-to-ceiling wall.

2. The dishwashing space is separated from the seating area by a floor-to-ceiling wall which includes a soiled dish opening. This wall returns to the rear line of the counter. From the standpoint of noise and appearance, this arrangement is preferable to one in which the dishwashing space is merely screened with partitions that do not extend to the ceiling.

3. Ordinarily, a curtain wall is hung from the ceiling over the front line of the counter, with the lower edge from 5 feet 8 inches to 6 feet above the floor. From the standpoint of noise, appearance, heat and food odors, this arrangement is obviously preferable to one in which there is no such wall over the counter, *i.e.* one in which the kitchen in effect is in the same room as the seating area.

Enclosed Kitchen. This type of layout (Fig. 2) is used when the seating area contains more than 100 seats. It consists of a kitchen directly back of a floor-to-ceiling wall that parallels the counter. There is a back bar along the counter side of this wall. The counter is located 4 feet in front of the face of the back bar. The storeroom is at one end of the counter, which is usually a good location with respect to deliveries and accessibility to employes, or at the rear of the kitchen. The dishwashing space is

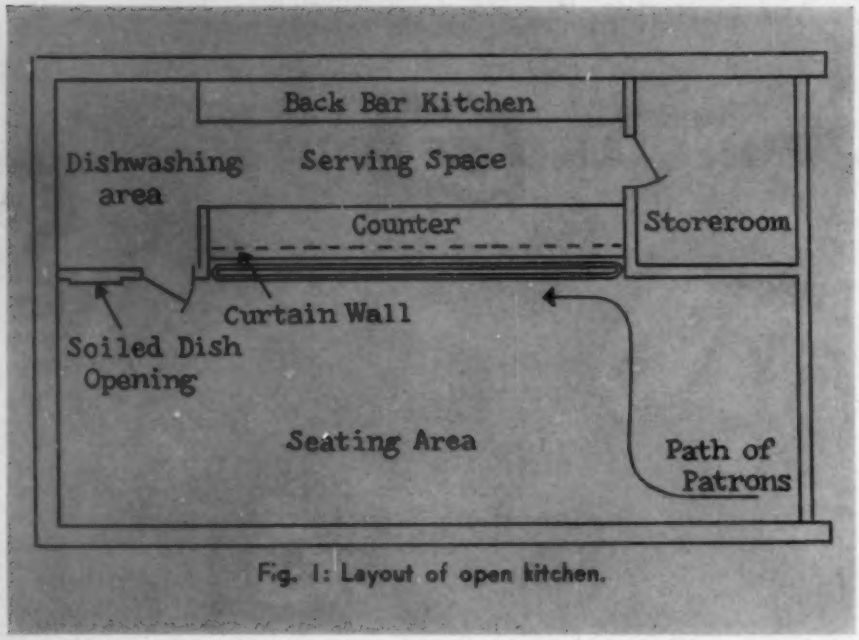


Fig. 1: Layout of open kitchen.

located at the opposite end of the counter, which is the end last reached by patrons. The seating area is directly in front of the counter.

The enclosed kitchen type of arrangement is a desirable one when there is enough kitchen equipment to warrant separating it in an enclosed room and when there is enough work during slack service hours to justify assigning one or more employes in both the kitchen and serving areas.

In the enclosed kitchen type of layout the wall arrangement, other than the floor-to-ceiling wall back of the counter, is as follows:

1. The storeroom is enclosed with a floor-to-ceiling wall.

2. The dishwashing space is separated from the seating area by a floor-to-ceiling wall that includes a soiled dish opening. This wall returns to the wall back of the counter.

TURNS IN COUNTERS

In designing large installations, enough space to permit including all the equipment in a straight counter is frequently not obtainable. In these cases various other arrangements are possible, principal among them being the following:

1. Hot beverage urns are placed on a right-angle projection back from the counter (Figs. 3 and 4).

2. Urns and cash register are placed on a right-angle projection out from the counter (Fig. 5).

3. The sandwich bar is placed on a right-angle projection at the beginning of the counter, back from the main line of the counter, *i.e.* between the counter and the rear wall. This position tends to facilitate by-passing of the sandwich unit by patrons who have no interest in eating sandwiches (Fig. 6).

4. Hot beverage urns are placed in the back bar. This is not as convenient an arrangement as having the urns on the counter.

5. Ice cream cabinet is placed in the back bar.

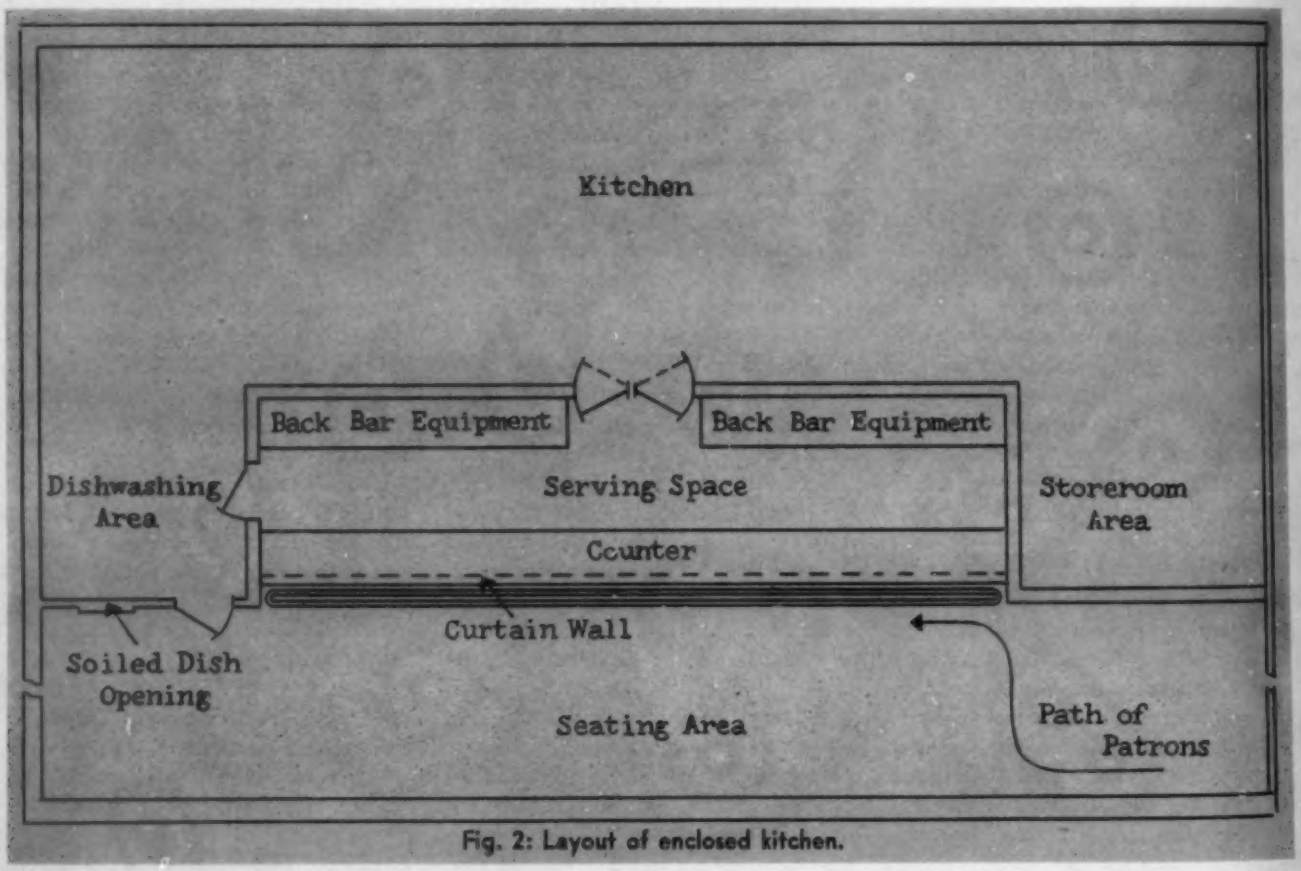


Fig. 2: Layout of enclosed kitchen.

6. The soda fountain, if one is provided, is located in the back bar.

EQUIPMENT REQUIRED

Now, let's take a look at the equipment needed and, roughly, where that equipment would be placed in the average cafeteria.

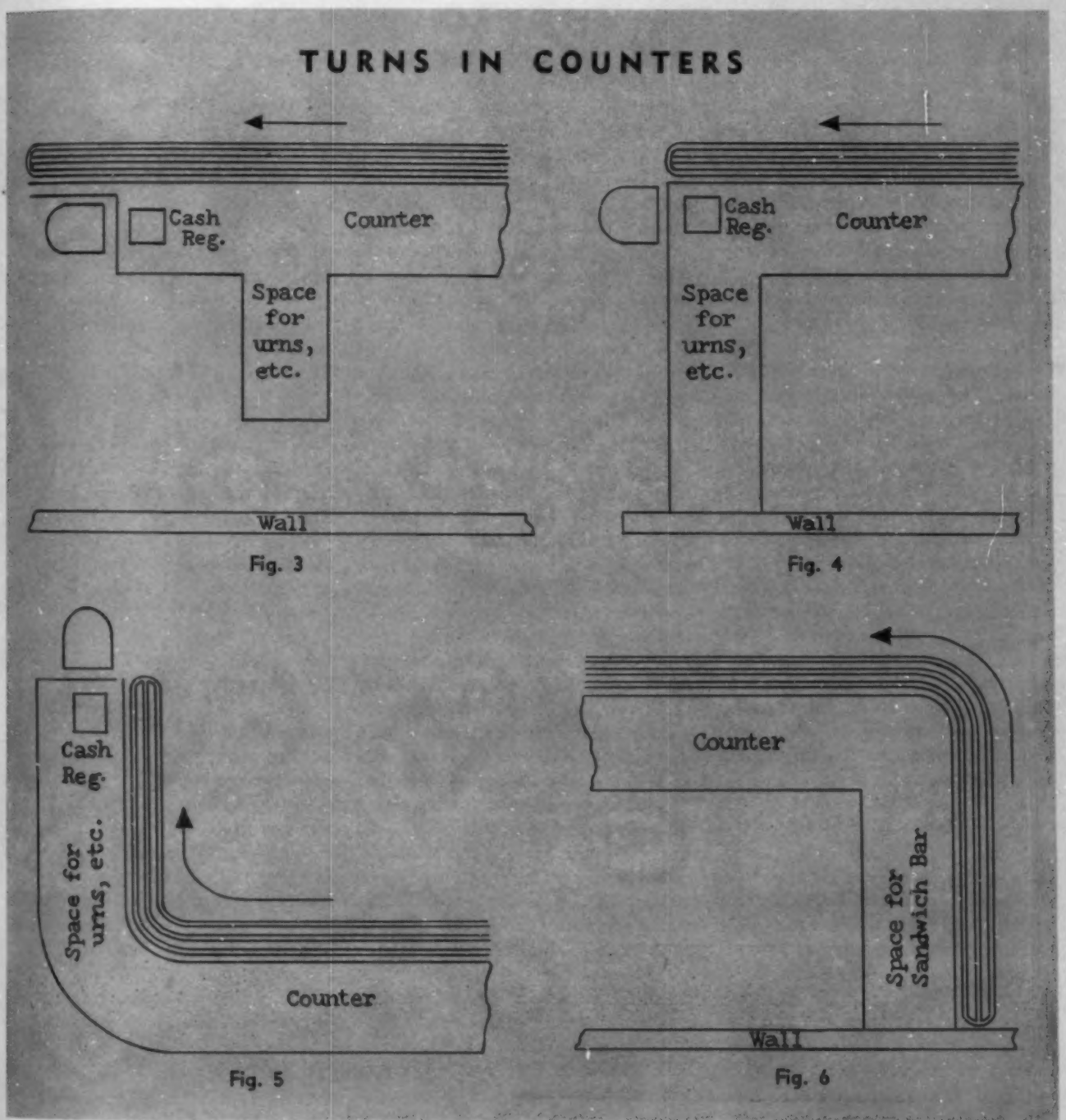
Storerooms. Storerooms are provided in all cafeterias — in smaller cafeterias one is sufficient. Two are needed in larger. Sizes are based on usual practices as regards advance purchasing. Orderly storerooms cannot, of course, be obtained unless their size is adequate for the needs. Two storerooms should be provided for large installations, one for day-to-day usage and a second for storage of case goods and advance purchases.

Refrigerators. For main storage purposes, three types are required: (1) reach-in refrigerators, (2) walk-in refrigerators, (3) frozen food cabinets.

Refrigerators of the reach-in type are installed in all except the largest cafeterias, as they provide adequate storage space for the types of containers used.

Except in open kitchen cafeterias, more than one refrigerator is needed. In order to provide a convenient place for the storage of counter supplies, such as butter, bottled milk, and salad ingredients, one of the refrigerators is located in the back bar. When the layout permits, additional convenience is provided when the back bar refrigerator is recessed in the wall between the serving space and the kitchen with doors on both the counter and kitchen sides.

Recognizing the need for adequate storage facilities for frozen foods, frozen food cabinets are provided for all cafeterias. Storage for the cracked ice used in counter ice pans and for chilling iced tea and other cold drinks is provided in three ways: (1) a refrigerator under the ice pan in the smallest cafeterias; (2) an ice storage



chest, located in the kitchen, in the largest cafeterias; (3) a machine that makes ice, ice cubes, or chipped ice.

Cooking Equipment. Various types of cooking equipment are provided, ranging from a small stove with open top burners in the smallest installation to a complete assembly in the largest, which includes: (1) a battery of ranges, composed of an open top and all hot top units; (2) a broiler and oven unit; (3) a deep fat fryer; (4) a steam cooker, and (5) stock kettles.

Adequate and well arranged cooking equipment goes far toward efficiency in operation. This factor obviously increases in importance with the size of the kitchen involved.

Work Tables. Work tables of the following types are provided, their design being based on the varying needs:

1. Cook's tables with built-in sinks. In open kitchens, because of the appearance factor, closets with stainless steel sliding doors are provided below the table tops. In the larger enclosed kitchens, pot racks are provided above the tables.

2. Baker's tables, because of the use they receive, have wood rather than stainless steel tops.

3. Vegetable preparation tables also have wood tops.

4. Salad and sandwich ingredient preparation tables have stainless steel tops, with removable recessed cutting boards, 12 inches wide, along the working side. This provides a good surface for cutting purposes.

Elevated shelves 14 by 22 inches above table tops should be provided above baker's and salad and sandwich ingredient preparation tables. In addition, consideration is given to the provision of shelves over sinks and clean dish tables if the arrangement permits their installation and if the additional convenience is thought to justify the cost.

LABOR SAVING EQUIPMENT

Many types of labor saving equipment are available for cafeteria use, for example, slicing machines, mixers, peelers, food cutters and dishwashing machines.

Salad Makeup Tables. In all cafeterias of the enclosed kitchen type, salad makeup tables are provided in the back bar. Usually, before the serving period begins, a supply of salads is made up in advance at this table, some being placed in an adjoining back bar refrigerator and others on the counter ice pan. During the busy period an attendant assembles salads at the makeup table and places them directly on the ice pan, which is near by. All such tables are equipped with elevated shelves.

Hot Plates and Griddles. In all cafeterias of the enclosed kitchen type, cooking equipment consisting of either a hot plate or a hot plate and griddle is placed in one of the back bar tables for breakfast use. This permits preparing breakfast items without going into the kitchen.

Closets Under Back Bar Tables. For appearance reasons, all back bar tables have closets under the tops, with stainless steel sliding doors.

Dishwashing. The location of the dishwashing space is most important. Details pertaining to the arrangement of the equipment follow:

1. Total area of dish tables is divided into two parts, a soiled dish table containing about 60 per cent of the total, and a clean dish table, 40 per cent. Dish tables in enclosed kitchens are from 30 to 36 inches wide back of the soiled dish opening, 24 inches wide on parts used only as rack slides.

2. The soiled dish table is placed along the wall back of the soiled dish opening and partly along the end wall; this section of the table leads to the dishwashing machine, which is also along the end wall. This provides adequate space back of the soiled dish opening for incoming dishes, and adequate space between the soiled dish opening and dishwashing machine for sorting dishes, loading the racks, prerinsing and sliding them into the machine.

The prerinse is a somewhat new thought in dishwashing. Before sliding the racks into the dish machine, the racks should be stopped over a sink which is a trifle narrower than the rack. This sink does not need to be more than 6 inches deep and should be provided with a scrap basket of approximately the same size as the sink. The sink is equipped with adequate draining and I am now advocating that one of the new machines which grinds up the garbage and disposes of it in the drain be connected to this sink drain. Over this sink should be installed a flexible hose with a suitable shower bath head and quick-opening valve. This, in operation, will flush residue off the dishes down into the sink where it will be ground and flushed into the drains.

3. The clean dish table starts at the opposite end of the dishwashing machine and continues along the end wall. This provides adequate space for sliding the racks from the dishwashing machine and stacking the dishes.

To the extent possible, the kitchen sink, or one of the kitchen sinks when there are more than one, is associated with the dishwashing equipment. Frequently, the arrangement includes connecting one of the drainboards to the clean dish table.

Back Bar. The back bar equipment is arranged so that specific items are associated as directly as possible with those parts of the counter with which they are related, for example, refrigerator and salad makeup table are placed back of the ice pan.

OTHER EQUIPMENT

The tray and napkin table is located between the start of the counter and the entrance into the cafeteria. I recommend that you locate the silverware at the end of the counter last reached by the patrons. This reduces greatly the usage of silverware.

Where there is one menu board, it is located so that it may be seen by incoming patrons before the start of the counter. Where there is a main menu board and one or more auxiliary boards, the former is located before the start of the counter, while the auxiliary boards are located near the places where the items listed are served, for example, hot food board near the hot food table, and ice cream board near the ice cream cabinet.

BUILDING ITEMS

Floors. Floors should be nonskid tile in the storeroom, serving space, kitchen and dishwashing area.

Walls. Walls in storerooms are painted. Those in serving space, kitchen and dishwashing areas are glazed tile wainscot, painted above. Wainscot is of such height as to protect the walls and provide a satisfactory appearance. Stainless steel guards are installed on exterior corners of wainscot to prevent breakage. In the serving space a linoleum wainscot is sometimes used instead of tile.

Ceilings. Ceilings should be acoustically treated in the serving space and in the dishwashing area of both open and enclosed kitchens.

Lighting. Direct lighting is used in the storeroom and dishwashing area. When there is a curtain wall over the

front of the counter, the serving space is treated as a separate unit. Various plans are used, for example, direct or cove lighting for working purposes, and to enhance the appearance of the food on the counter, trough lights along the inside lower edge of the curtain wall or spotlights recessed along the bottom of the curtain wall.

When there is no curtain wall, the serving space is treated to harmonize with the treatment of the seating area, with spotlights recessed in the ceiling to illuminate the counter.

If fluorescent lighting is used at all, it must be used in the kitchen, serving area and seating area. No one of these areas can be omitted if fluorescent lighting is used.

Ventilation. Adequate ventilation of cafeterias is particularly important, both because food and cooking odors are involved, and because the various work areas in the kitchen and serving space are wholly or partially enclosed. Furthermore, there is usually a considerable amount of smoking by patrons. For these reasons, some form of general mechanical ventilation is almost always required in addition to the usual venting arrangements from range and dishwashing machine hoods. I cannot stress too strongly the need for obtaining expert assistance on the various phases of cafeteria ventilation.

SPECIAL CONSIDERATIONS

Certain types of cafeteria equipment warrant special consideration as individual installations are planned. These include the following:

Mop Sinks. If one of the regular janitor's mop sinks is not convenient, a mop sink for cafeteria use should be provided in a convenient location.

Lavatories. A lavatory should be provided in a convenient location for use by cafeteria workers.

Prewash Sinks. There is a trend toward providing, principally as a sanitary measure, a specially designed prewash sink or other device in the soiled dish table in a position convenient to the place where dishes are racked. Residue and greases that otherwise would pollute the water in the dishwashing machine are quickly flushed off before the racks enter the machine.

Brush Glass Washers. These devices, relatively few types of which are currently available, have advantages over washing glasses in a regular dishwashing machine and may be desirable in large installations. Revolving brushes scrub the glasses thoroughly inside and outside, removing lipstick and film. After this they are rinsed and dried in the machine. Toweling is unnecessary.

Silver Washers and Driers. These are devices for both washing and drying. Silverware is placed in specially designed baskets kept on the soiled dish table. It is then poured into a drum in the machine, where it is washed in a detergent solution which removes all grease quickly. Next, the silverware is thoroughly rinsed with

fresh hot water under high pressure. Drying is accomplished with electrically heated air. Toweling is unnecessary. With this method, food stains are removed each time the silverware is washed.

Silver Burnishers. These machines facilitate the polishing of silverware and are often considered to be desirable in large installations.

Automatic Dish Dispensers. These rather recently developed devices offer attractive advantages, particularly in large installations. With this equipment plates, saucers, cups, bowls and glasses are placed on an elevator device which is lowered into a compartment at the counter or back bar, one layer being always available to attendants. As the top layer (individual plate or tray of cups, for example) is used, the elevator moves up, and another layer automatically advances to the same dispensing position. It provides increased storage capacity, speeds the service, protects dishes from breakage, and keeps counter tops clear and orderly. Such equipment is available in a wide range of types and sizes and may be arranged to warm or cool the dishes as desired. Models for accommodating serving trays and individual cartons of milk are also available.

Trash rooms are useful in large cafeterias where there is a large accumulation of waste material, such as empty crates, barrels, cartons and cans. A trash room, preferably adjacent to the storeroom, provides a convenient depository for such material, where it will be out of the way until it can be removed. Such a room is especially useful when the cafeteria is on an upper floor and when trash collections are made only once or twice a day via a freight elevator.

ARRANGEMENT OF EQUIPMENT

The exact arrangement of equipment for a given cafeteria is governed largely by the characteristics of the space to be used. Actually, in all of the cafeterias of the Bell system, there are few, if any, that are alike as to the detailed arrangement of the equipment within the space. There are, however, a number of basic principles that have general application. The objective should be to obtain just as desirable an arrangement as possible, although in some cases compromises have to be made between what is desirable and what is attainable.

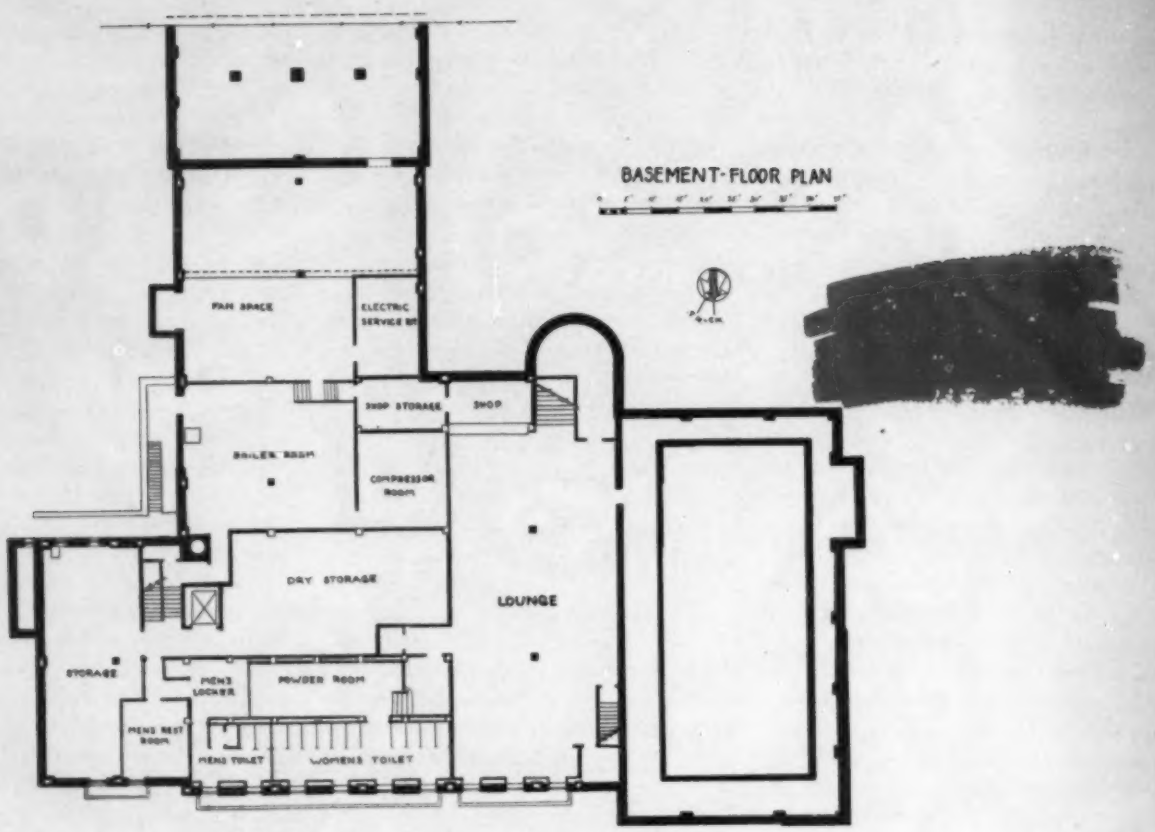
The main requirement is that the equipment be so arranged that efficiency in operation is ensured, *i.e.* movement of the food with a minimum of steps from the places where the supplies are stored to the places where they are served. The two types of plans described, the open or Dutch kitchen and the enclosed kitchen, both have the kitchen directly back of the counter. This in itself goes far in meeting the basic objective of convenience.

The main storage refrigerators should be located so that they are convenient with respect to deliveries and accessibility to employes.

The heart of the kitchen is the vegetable preparation and cooking equipment. All of this equipment is, therefore, kept together, and just as close to the hot food table in the counter as possible. In the smaller kitchens there is one "cooking line" with all of the cooking equipment in this line and the cook's table in front thereof.

A common arrangement in large installations is the "island plan." Under this plan the cooking equipment is divided into two parts, each being lined up on opposite sides of a dwarf partition that stands out in the room. One hood covers the entire assembly. Opposite each cooking line, with working space between, are the various tables used. The sinks used in washing pots and pans are located near the cooking equipment.

All of the equipment used in preparing salad and sandwich ingredients is kept together, and in a location convenient to the refrigerators. This equipment does not need to be as close to the counter as does the cooking equipment.



Dining Hall AT NEW ROCHELLE

MOTHER M. BERENICE

Director of Public Relations
College of New Rochelle

EXHIBITING MODERN AND PRACTICAL architectural features to accommodate the needs of the more than 800 students at the College of New Rochelle, New Rochelle, N.Y., the new students' dining hall now under construction on the campus is expected to be ready for use in January.

The building, which includes two stories and a basement, occupies an area of approximately 16,000 square feet. It measures 166 feet in length by 85 feet in width. Designed to form a unit with the Mother Irene Gill Memorial Library, with which it is connected by a one-story building, it is built of the same material—random stone ashlar with cut limestone trim. The combined length of the two buildings is 350 feet.

This latest addition to the 40 acre campus of the college was designed by Voorhees, Walker, Foley and Smith of New York City.

A cafeteria accommodating 285 students occupies the first floor, while a dining hall seating 500 is located on the second. Both the cafeteria and dining hall have concrete slab flooring covered with asphalt tile and acoustical ceilings of the metal pan type. Each has a wood-burning fireplace.

The entrance hall, with its checking facilities, has a green terrazzo floor and an acoustical ceiling.

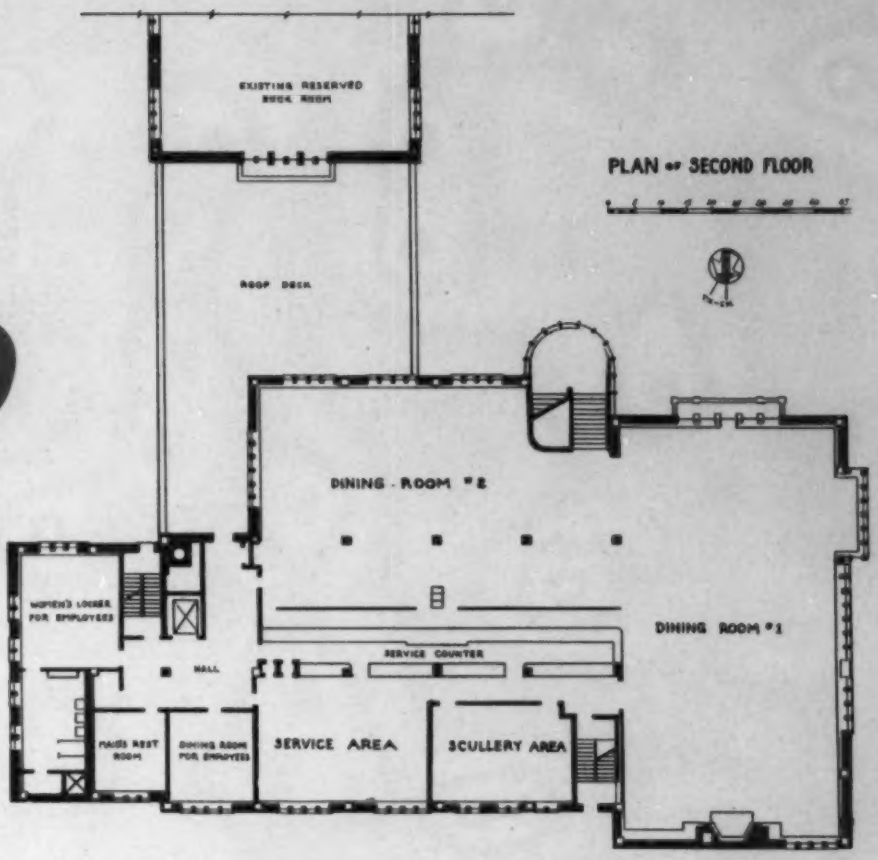
Located on the same floor with the cafeteria, the kitchen is designed for the maximum of cleanliness and efficiency. The floor is cinnamon colored quarry tile and the walls are gray tile from floor to ceiling. Both walls and ceiling are constructed of acoustical material of the perforated transit type.

Complete facilities are provided for every type of cooking and baking. Kitchen and serving equipment is of stainless steel, enameled metal, aluminum or whatever material best suits the purpose for which it is to be used. Wherever possible, kitchen equipment will be placed away from the walls in order to ensure cleanliness.

The basement contains a student lounge, powder room, college store, and locker rooms. Offices and lounges are located in the connecting building.

The stairs connecting the basement, first floor, and second floor are enclosed in a semicircular bay window, 20 feet in diameter, entirely of glass; it extends from ground to roof.

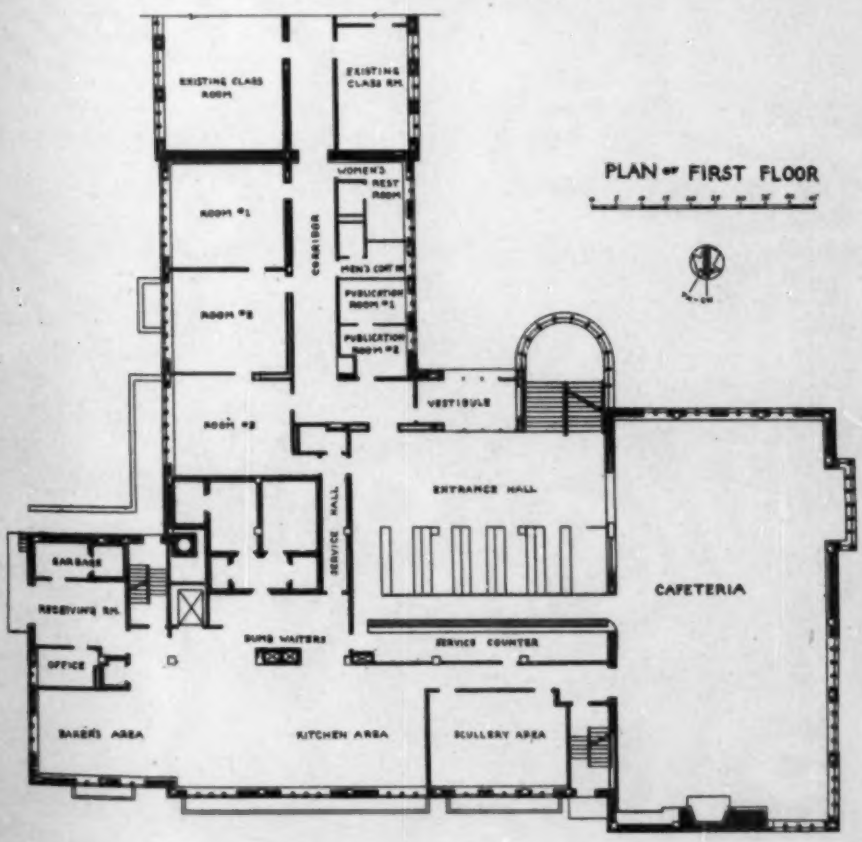
The first and second floor serving areas are connected by an electric elevator and dumbwaiters. Like the kitchen, the serving areas have acoustical ceilings and gray tile walls. On the off-campus side of the building are a delivery platform and receiving room. Adjacent to the latter is the office of the manager, who will have full charge of the work and supervision of the kitchen.



PLAN OF SECOND FLOOR

Six walk-in refrigerators are provided for the storage of meat and fish, fruits and vegetables, dairy products, fruit juices, bakery products, and deep freeze products. There are individual refrigerator units in the serving areas.

Of steel frame and reinforced concrete fireproof construction, with a slate roof, the building has steel casement windows. Interior partitions are of cement and terra cotta block; stairs are of steel with terrazzo treads. Flooring throughout is of concrete slab, covered with tile of various types and colors, with the exception of the lounge. The flooring in the lounge will be covered with red linoleum.



PLAN OF FIRST FLOOR

Heat is provided by oil-burning equipment for a two-pipe, low-pressure vacuum return system, zoned into two sections, each controlled by motorized valves governed by thermostat. The radiators are covered with metal enclosures.

Lighting throughout the building is of the incandescent type, the fixtures being of various types, with the exception of the kitchen and serving areas, which have fluorescent lighting. The fluorescent fixtures are recessed into and flush with the ceilings.

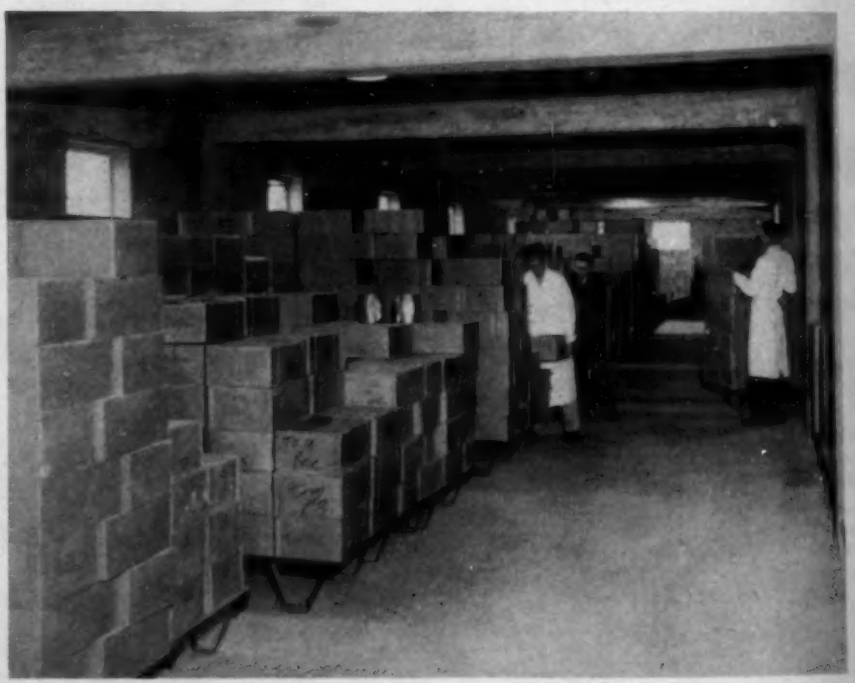
It is planned to serve both breakfast and luncheon in the cafeteria. The normal distribution of the college enrollment is approximately 500 resident and 300 nonresident students. To accommodate both groups, there will be three shifts during the noon luncheon period. Dinner will be served to the resident students in the dining hall in the evening.

FOOD STORAGE BUILDING, MICHIGAN STATE COLLEGE

NEWLY FABRICATED FOR *Food*

ROBERT F. HERRON
Manager of Food Stores
Michigan State College

FIVE TRUCK PITS may be seen in the building shown above. At opposite ends of the building are facilities for unloading two railroad cars simultaneously. The canned storage room, below, accommodates eighteen carloads, or 26,000 cases of canned goods.



A MODERN FOOD STORAGE BUILDING, big and versatile enough to handle the food requirements of 8000 people a day and concessions services to more than 15,000 a day, was completed recently on the Michigan State College campus.

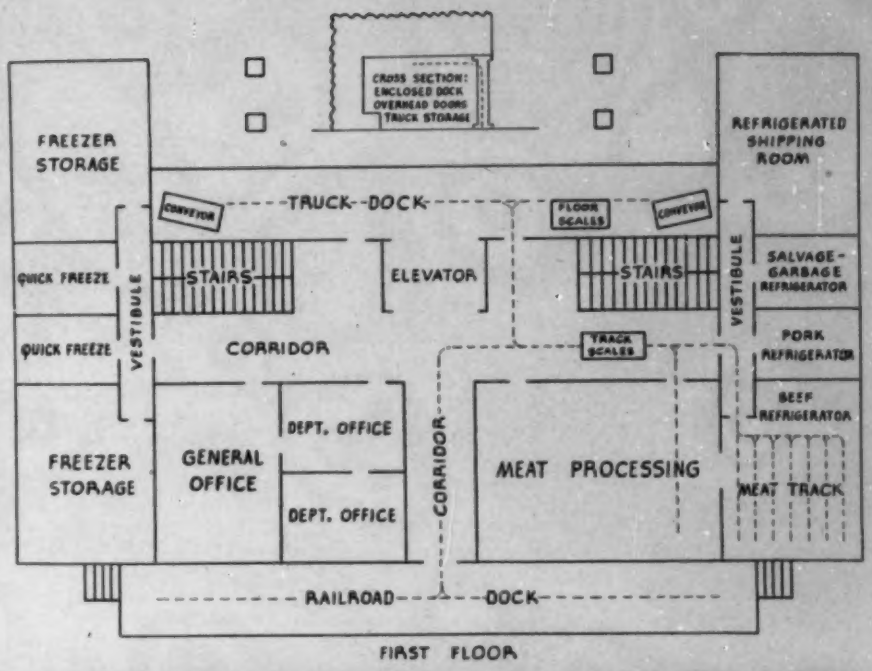
It is expected to solve food service problems attendant on the growth of Michigan State from an enrollment of 6700 students in the fall of 1940 to nearly 15,000 this year.

The structure is located on a railroad spur adjacent to the new football stadium seating 51,000. Centrally located, it is within easy distance to any campus kitchen.

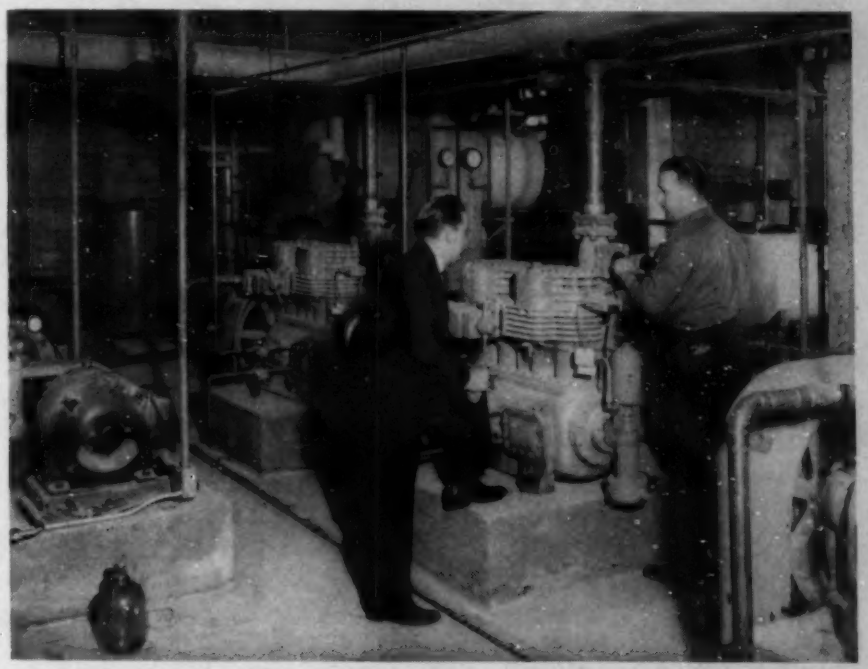
The building has on its three floors sufficient space to warehouse eighteen carloads, or 26,000 cases, of canned

goods plus staple items like flour and sugar. It also has three meat coolers with a capacity to store five carloads of meat; 5600 square feet of cooler space for produce, eggs and cheese, and freezer space for eight carloads of frozen foods. Some additional features include the meat and vegetable preparation rooms which centralize meat cutting and much of the vegetable cleaning formerly handled individually by various campus eating units. Meat, for example, is fabricated into chops, roasts and steaks ready for the oven.

The building has facilities for unloading two railroad cars simultaneously. On the opposite side of the structure are five truck unloading pits. Refrigeration is supplied by three 20 h.p. compressors in the basement of the new food storage building.



Storage

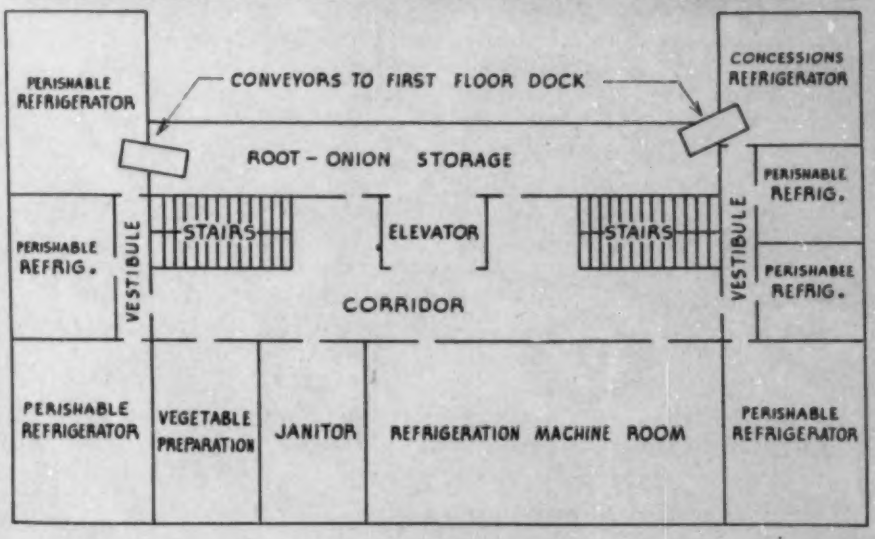


REFRIGERATION EQUIPMENT has three 20 h.p. compressors. The food stores manager is shown as he observes the final tuning of equipment by an employe before it went into service.

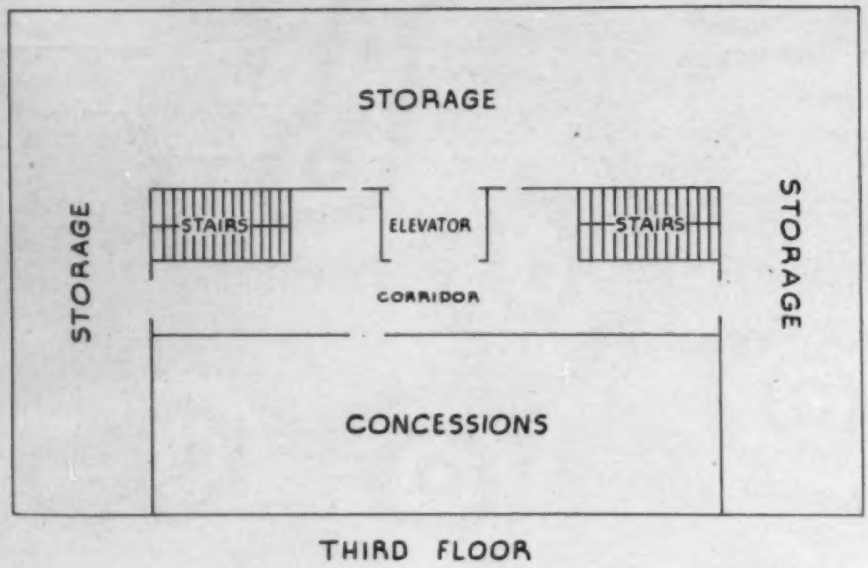
Up until several years ago each dormitory and the other eating units bought their own food supplies from local jobbers and retailers. Through this practice only relatively small quantities of food were bought by each unit without the price concessions granted to large quantity buyers. This method was both costly and inconvenient.

The principal lack was uniformity of quality or price. Another critical problem was storage space. What there was was scattered all over the campus and elsewhere and was entirely inadequate.

The first step was to create a central department that would serve the college with purchasing, warehousing



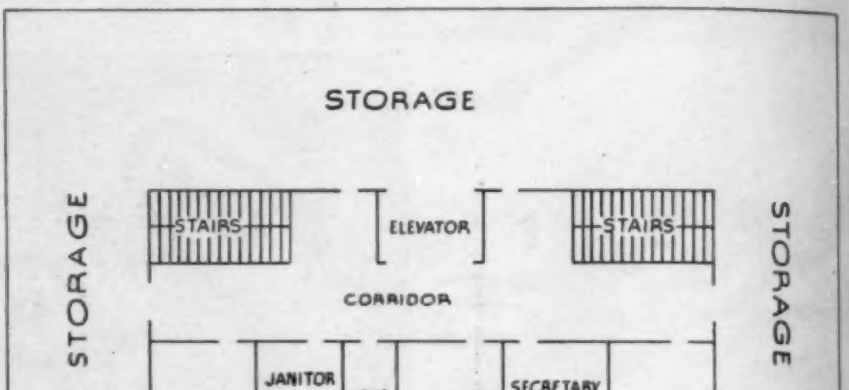
BASEMENT



To distribute food from the stores building to the fifteen campus food units, Michigan State College has five trucks. Items for campus concessions are also stored in the building; campus vending machines likewise receive supplies from it.

and distribution of food. It was placed under the general supervision of Emery G. Foster, manager of dormitories and food services, with myself in the managerial slot.

A food control panel was established whereby I met twice each month with dietitians from all residence halls and other units to discuss cost and quality of foods. A point was made to test new food items and to reach majority decisions on the brands preferred. This became the basis for purchasing.



BUYING BY CARLOAD

Now most food items are bought in carload lots direct from the manufacturer.

The new food stores building, constructed at an estimated cost of $500,000, is being financed on a self-liquidating basis. By this is meant that the building will be paid for over a twenty-year period out of savings derived from large quantity buying. In addition to the functions of purchasing, receiving and storing, the food stores department in its new building will have the responsibility of distributing all food consumed by the fifteen campus food units. A fleet of five trucks has been assembled for the purpose of food transportation. Besides the tremendous inventories of food, the stores building carries stocks of candy, gum, fountain supplies, cigarets and other products for the campus concessions. Likewise, all vending machines located anywhere on the campus are also supplied from the central stores building.

Maintenance OF EQUIPMENT

FRANCIS C. SHIEL

Business Manager of Residence Halls
University of Michigan

THERE IS A CLOSE CORRELATION BEtween mechanical care and sanitation. Maintenance, as we generally think of it, refers to those acts that protect and provide for the continuous and efficient usefulness of equipment; sanitation primarily provides for keeping the equipment in a condition that is satisfactory for the protection of health. Present-day methods of keeping kitchen equipment in condition include maintaining standards set forth by sanitation codes as well as looking after its efficient usefulness and longevity.

The daily care of food service equipment has been carefully outlined in a brochure, "Care of Food Service Equipment," prepared under the direction of the American Dietetic Association. It is an excellent piece of work, the result of many months of research. Observance of the details set forth in the brochure will practically guarantee a high standard of cleanliness and equipment protection.

One important consideration in any maintenance program is the employment of a good mechanic who thoroughly understands the function and mechanical operation of kitchen equipment and who is capable of supervising others in its upkeep and repair. If he is acquainted with certain principles of sanitation, he will be one of the most valuable employes connected with kitchen management.

This does not mean that the mechanic will undertake to repair all kitchen equipment, for some repairs require specialized service. It does mean, however, that a large portion of the trouble can be determined quickly and its solution arranged for. A good mechanic will know his limitations and will be the first to call for help in case of his inability to cope with the situation.

Since many of our institutions are unionized, it is sometimes difficult to employ such a person as a working mechanic. Regardless, someone should be on hand to recognize trouble, supervise its correction, and check the machine before returning it to use.

MECHANIC ON CALL

Small colleges may not find it economical to employ a man to perform this service, but someone in the maintenance department should be designated to study the equipment so that he can be relied upon when trouble occurs. Small kitchens do not have the complicated equipment found in the larger operations, and the training of an employe for this purpose is not difficult.

Very large institutions should employ one person directly responsible to the head of the maintenance department who understands the function and operation of the mechanical kitchen equipment and who follows through when trouble arises. In any case, when outside mechanics or a succession of tradesmen work on the equipment, a report should be made in order that those who are called in at a later date can be informed of the work that has been done by the previous mechanic.

A good maintenance mechanic can also be of valuable assistance in planning new—or remodeling old—kitchens. Many problems of mechanical and hygienic care of equipment have their beginning in the design and layout of the kitchen. From a practical standpoint, it is not enough to have the services of a good kitchen consultant or manufacturer's representative to make a layout of the kitchen and to allow his judgment to be final. Theoretically, he may be right, but it remains for those who have to service and to work with the equipment every day to make suggestions of practical value to complete the layout. Too often equipment is placed without thought of its use or of the difficulties to be encountered in its maintenance.

A small compact kitchen is economical but may be most expensive when repairs have to be made or when machinery has to be serviced. Experience will show that maintenance departments will make changes from time to time to allow the equipment to be more easily serviced. By scrutinizing the details of a layout, a good mechanic or maintenance department can make suggestions that may be immediately practical and economical and can avoid expense in the long run.

The mechanic, representing management, should also be on hand when the equipment is finally placed be-

cause, however carefully the equipment is designed, the kitchen contractors and tradesmen have their own ideas about its manufacture and installation. Roughing-in plans made by the kitchen contractor will be followed by the plumber, steamfitter and electrician, but the kitchen contractor will seemingly at his own discretion take liberties with the plan and with construction of the equipment so that it will not fit the roughing-in plan.

Unless installation is watched carefully, the mechanical trades will take the easiest way out under these conditions, and many times valves, pipes, electrical controls, and outlets are placed in such awkward locations that the maintenance department will eventually have to relocate them to make them accessible.

DAILY OR PERIODIC INSPECTION

The maintenance of kitchen equipment quickly resolves itself into two phases:

1. Daily maintenance, or that provided for by the kitchen staff and supplemented by the assistance of a mechanic as necessary.

2. Periodic maintenance, or that attended to by the mechanic in accordance with a predetermined schedule during the year, the program to be carried out during a shut-down period.

Either of these will prove expensive when slipshod procedures are allowed to prevail for any length of time. To enumerate a few of the results: kitchen and dietetic standards will be lowered; employe morale will be affected, and sanitation authorities will, for the protection of the public, virtually close the doors until conditions are remedied.

It is possible that whole pieces of equipment may have deteriorated to a point at which replacement is necessary or the expense of renovation may be almost prohibitive. The confidence and good will of the patrons of the dining room will be most difficult to regain when conditions have gone this far. It is hard to understand how management can allow such conditions to exist, but they now and then take place.

Many pieces of kitchen equipment require mechanical inspection daily, whether by the observance of the employe operating a machine or by the checkup of a mechanic. In most cases the employe-operator who is experienced in the output will be first to detect mechanical faults. Defects will appear from time to time in spite of the best efforts of the maintenance department. Broken belts on refrigeration machinery, failure of a compressor, an overheated motor, an oil leakage in a mixer, failure to maintain proper steam pressure and hot water temperatures, a leaking pump, burned-out elements, and leaky faucets are only a few of the everyday problems that beset the management of a kitchen.

Employes should be instructed to turn in any bolts, nuts or machine screws found in the kitchen area, and to report at once any irregularity in the operation of equipment. It may be advisable when operation is irregular to put the equipment out of service until the trouble can be ascertained and corrected. Expensive repair bills many times can be minimized through the alertness of the equipment operator. The difficulty may be minor, and a quick adjustment may put the machinery back into proper condition, while, if allowed to go unrepaired, major expense and temporary loss of use may be the result.

Schedules covering periodic inspection throughout the year should be arranged in conformity with the manufacturer's recommendation for the care of machines. At the shutdown time, the more extensive inspection and repair work must be integrated with the larger maintenance program which covers both equipment and building.

MUST KEEP RECORD

A chart or record should be kept of the inspection of all machinery. This should include dates of inspection and pertinent information concerning lubrication of the machine. The inspection should also include an examination of moving parts to determine whether or not there has been excessive wear. Future trouble can sometimes be anticipated and the necessary parts obtained in advance.

A record should be kept also of the frequency with which the various pieces of equipment need repairs. Invariably it will be found that it is not the fault of the machine when frequent repairs are needed, but that the machine has been abused by the operator through either carelessness or improper instruction about its operation. Some pieces of equipment, such as ranges, unless cared for daily, will deteriorate rapidly and will require extensive repairs. To the inexperienced, all of this may appear to be time-consuming, but to the mechanic it is a routine that is quickly accomplished unless some definite trouble is suspected.

It is most important that a complete file of parts' catalogs be kept for all models and makes of equipment. When repairs are needed, much time can be saved if repair parts are ordered by number. The model and serial number of the machine are also requisites for prompt service from manufacturers.

During the summer months most college kitchens are shut down for a short interval, at which time the maintenance program in its broader sense can be undertaken. The maintenance mechanic is responsible for the supervision, direction and the coordination of this work with the cooperation of the dietitian who provides the labor and who personally directs certain phases of the program.

SUMMER DUTIES

The following outline shows the major steps to be carried out at this time:

1. *Insect and Vermin Control.* This is part of the periodic extermination program carried on throughout the year, differing only in that it is more extensive. All materials, small utensils, and dishes are taken from kitchen cabinets, shelving and cupboards and stored elsewhere to allow a complete application of insecticides. Cracks that may have developed are filled and any other likely nesting place that can be located is repaired and made inaccessible to insects.

For best results, the insecticides are applied early in this period and are then left until the final cleaning before the kitchen is reopened. This extermination work can be done by the maintenance department, but more satisfactory results are likely to be obtained through a contract arrangement made with a competent exterminator.

2. *Wall Washing, Painting and Floor Repairs.* The walls and ceilings, unless acoustically treated, of all rooms connected with the kitchen are washed. This includes storerooms, cafeterias, dishwashing rooms, bake shops, vegetable rooms, garbage rooms, the kitchen proper, and walk-in refrigerators. It is recommended that the work start with the refrigerators in order to allow ample time for drying before painting. The drying out process can be hastened by the use of fans.

No painting should be undertaken in cooking areas, refrigerators or places in which there is an accumulation of grease and dirt until after the walls are washed. A more satisfactory job of painting will be accomplished if this routine is carried out in all areas as well. Hoods, machines, ranges, ovens, table legs, and any other equipment originally having painted or enameled surfaces should be included in the painting program after they have been thoroughly cleaned and washed. The best quality of enamels should be used in order to withstand the numerous washings of daily maintenance.

Areas damaged by hot greases and food acids should be replaced or repainted. Broken tile should be replaced, and floors requiring paint should be painted after a thorough scrubbing.

3. *Hoods.* The plenum chamber, the stack if it is accessible, and the fan are scrubbed to remove accumulated grease and dirt. Hood filters are washed or are replaced if necessary. It is recommended that the removal of grease and dirt from hood exhaust systems be contracted for with industrial firms specializing in this type of work.

Many pieces of equipment require mechanical inspection daily.

SUMMER CARE OF RANGES

4. *Gas-Fired Ranges, Deep-Fat Fryers, Ovens.* This equipment is disconnected and moved away from the back wall in order to remove the grease that has accumulated through condensation and spilling. If the room permits, this cooking equipment should be installed with a space of approximately 18 inches between the back wall and the ranges to allow for frequent cleaning. Burners and racks of the ranges and ovens are cleaned, and surfaces to be painted are made ready. Broken and warped tops and ceramics are replaced. Unpainted surfaces are oiled after cleaning to prevent rusting.

Electric Cooking Equipment. A program similar to that for gas-fired equipment is carried out. Electrical work to be done will be covered later.

5. *Steam Cooking Equipment.* Painted surfaces are made ready for painting. Door gaskets on steamers are usually replaced and seated-in yearly. Other recommendations will be covered later.

6. *Kitchen Machines.* In general, most kitchen machines have gear boxes that must be flushed out periodically and refilled with new oil. The machines are checked for excessive wear, and necessary repair parts are installed. The abrasive disk of the vegetable peeler is sent to the manufacturer for resurfacing. The pumps of the dishwasher are torn down, cleaned and repacked, and the lime deposits in the interior of the machine are removed.

7. *Plumbing.* All waste lines and traps, including floor drains, are flushed out with boiling water and sweetened with soda. Hot and cold water valves are reseated, and new washers are installed. Supply lines are examined for small leaks, as evidenced by rust accumulations around fittings, and are repaired. Automatic mixing valves and temperature gauges are checked for dependability.

8. *Steam Work.* All traps between the steam main and the traps on individual pieces of equipment are taken apart, repaired or replaced. Valves are reseated or replaced, and leaks are repaired. It may be necessary to repeat the cleaning process in the traps because of small pieces of scale that may have been dislodged in working on the lines. Steam gauges are checked to determine their dependability and accuracy. In some instances it may be necessary to have them recalibrated.

9. *Electrical Work.* Particular attention is given to all electric switches and controls, as these must be kept in perfect condition to prevent accidents. Motor settings are checked for alignment and tension. Brushes are replaced or adjusted as necessary, and the motors are oiled. Oven temperatures are checked with the readings on the controls for accuracy.

10. *Refrigeration Machinery.* Because this is a specialized trade, the maintenance of refrigeration equipment is ordinarily contracted for. The compressors are pumped down and thrown out of service. They are carefully inspected when they are restarted to make sure that everything is in good working order.

11. *Miscellaneous Work.* There are numerous other maintenance jobs connected with the kitchen, such as inspecting trucks for caster and bumper repairs, bumping out and retinning utensils, replacing gasket material on refrigerator doors, checking over flatware for repair or replating, sorting out chipped and cracked china, and refinishing and repairing chairs, all of which are best carried on during the shut-down period.

The foregoing will serve to indicate what is meant by a full program of maintenance of the kitchen and its equipment. Money spent on such a program will prolong the useful and efficient life of the equipment, help control utility and labor costs, reduce the danger of industrial accidents, safeguard the health of patrons, and finally provide a well operated kitchen.

QUESTIONS AND ANSWERS

Roller Skating

Question: As a recreational program for students we have considered the possibility of using our gymnasium floor for roller skating. How will this affect the floor?—H.B., Colo.

ANSWER: I cannot conceive of a physical education director who would permit roller skating on a gymnasium floor. (Keep in mind the fact that even street shoes are usually prohibited.) I am positive that steel wheeled and probably hard rubber wheeled skates would damage the floor by tracking and discoloration. Maple wheeled skates (professional) are somewhat higher in price but would no doubt do less damage. I should proceed with great caution and trepidation in adopting a policy of allowing roller skating on a gymnasium floor.—A. F. GALLISTEL, *director of physical plant, University of Wisconsin.*

Retirement Programs

Question: Should colleges establish retirement programs for nonacademic personnel? If so, what percentage of the retirement assessment should be paid by the employe?—F.P., Tex.

ANSWER: The answer to the first part of this question can be only a vigorous and unqualified "yes." It is hardly necessary to debate the principle of the retirement plan as such. We have it to a degree in our federal social security system.

We, as educators, have accepted its principles wholeheartedly as they apply to our faculties. About half of us, however, thus far have failed to provide it for the members of our nonacademic staffs. These employes are outside the protection of social security, though that situation could change in the near future. But even if they are eventually granted this coverage, as I believe they should be, the degree of protection provided falls far short of the standards accepted by us for our families, and by almost all business enterprises for their employes. We should, in fact we must, move toward better protection for our nonacademic staffs.

The usually preferred plan calls for equal contributions by employer and employe, and that is normally the best arrangement. If the writer of this question will refer to the recently published "College Retirement and Insurance Plans" by William C. Greenough, Columbia University Press, 1948, he will find an up to date summary of all plans now serving higher education and may make his own comparisons as to their value.—DONALD E. DICKASON, *director of nonacademic personnel, University of Illinois.*

Week-End Absenteeism

Question: What kind of procedure can be established in our student employment policy that will assure a full staff of employes in our food service department over week ends? We have a high rate of absenteeism at that time.—H.C., Vt.

ANSWER: A high rate of week-end absenteeism in student employe groups is a manifestation of weak discipline and poor morale. When circumstances permit, students with records of excessive violations of schedule should be replaced. Morale can be improved and absenteeism minimized by management's recognition of the need for some week-end freedom. The students' needs can be recognized by (1) scheduling one or more free week ends per month; (2) allowing substitutes or adjustments of schedule upon advance notice from the student; (3) initiative in developing a list of approved substitutes.—M. R. SHAW, *director of dormitories, Cornell University.*

If you have a question on business or departmental administration that you would like to have answered, send your query to COLLEGE and UNIVERSITY BUSINESS, 919 North Michigan Avenue, Chicago 11, Ill. Questions will be forwarded to leaders in appropriate college and university fields for authoritative replies. Answers will be published in forthcoming issues. No answers will be handled through correspondence.

Staff Morale

Question: What would you consider essential to staff morale?—M.E.C., Tex.

ANSWER: The essentials of good morale are shared purposes; opportunity to be heard and to make a contribution; security; appreciation and recognition; respect for personality; friendly and cordial relations; inspiring and competent leadership; justice; a certain degree of routine or habit; rest and relaxation; a feeling of success; freedom to think and create, and an emphasis on praise, commendation and encouragement.—ARVID J. BURKE, *New York State Teachers Association.*

Flameproofing Textiles

Question: How can we inexpensively flameproof draperies, chair covers and curtains?—B.H.T., Ill.

ANSWER: Mix 1 pound of crystalline borax and 13 ounces of boric acid in 2 gallons of water. The water should be heated and the constituents allowed to dissolve; mix thoroughly.

After the solution has been allowed to stand until it has cooled to room temperature, any washable fabric that is dry and clean can be immersed in it. If the material wets easily, dipping may be all that is necessary; if the fabric seems heavy, it may be soaked for ten or fifteen minutes to ensure impregnation. Starch may be included in the solution at the same time, if desired.

The article should be wrung by hand and, upon drying, ironed with a lower temperature than ordinarily used because the treatment lowers the scorch resistance somewhat.

If the material is of such texture that it must be redampened for pressing, a steam cloth or steam iron should be used; otherwise spotting will take place.

This treatment does not affect the color of most dyes, does not encourage mildew, and is nonpoisonous. It is not permanent, however, and must be renewed after each washing.—*National Bureau of Standards, Washington, D.C.*

LOOKING FORWARD

Slow Pickup

COLLEGE IVY HAS CERTAINLY FOULED UP THE wheels of progress when it comes to intelligent use of audio-visual aids in instruction. Some good work is being initiated, but the ivory-tower complex has encouraged many faculty members to shy away from something that they construe as an affront to their professional competence.

During the war the use of audio-visual aids proved to be an accelerator for student learning and understanding. Survey tests have shown marked advance in grasp of subject matter where audio-visual aids were used rather than the traditional methods.

In general, secondary schools seem to have made more effective use of these supplementary teaching aids than have colleges. There is an awakening in some areas, however, and a few colleges are establishing audio-visual centers. Other institutions are incorporating space for audio-visual technics in their plans for new buildings or for remodeling jobs.

The heavy student enrollment on the college campus, combined with a scarcity of available faculty, has thrown a heavy burden on the instructional staff. In commenting on this problem, Dr. Norman P. Auburn, vice president and dean of university administration at the University of Cincinnati, observed that "colleges must make every effort to increase the efficiency of their teaching processes. This does not mean overloading the faculty, but it does mean inquiring intelligently into the utilization of the best features of the lecture, of adding teaching aids of visual and auditory types when possible."

Efficiency in teaching technics certainly calls for the serious consideration of those aids that may assist the faculty in the performance of its teaching responsibilities. To neglect such teaching tools is to overload the instructor and to deny the student the best in educational practice.

Taxes—and Gifts

COLLEGE OFFICERS EVERYWHERE ARE INTERested in what can be done to increase the institution's income in order to meet the high costs of "doing business." In J. K. Lasser's new book, "How Tax Laws Make Giving to Charity Easy," a college administrator is provided with an effective blueprint for obtaining gifts.

There has been much loose conversation about the fact that with the gradual disappearance of gigantic fortunes, it is not possible to expect the tremendous gifts to education that have been recorded in past years. Mr. Lasser points out, however, that the present contribution to nonprofit institutions amounts to approximately $2,000,000,000, whereas "$20,000,000,000 could have been contributed if taxpayers had used up the 15 per cent deduction allowed by our government."

Mr. Lasser lists some specific methods to increase contributions; among them are proper timing for gift solicitation, gifts of property, gifts by estates and trusts out of income, gifts coupled with annuities, contributions of trusts and foundations, and a wide variety of other technics.

If the author is correct in his assertion that from a potential contribution of $20,000,000,000, colleges and other nonprofit institutions have only tapped $2,000,000,000, it is high time college administrators developed their strategy.

Your Community Rating

SOME COLLEGES HAVE TENDED TO OPERATE ON the policy of "the public be damned" as far as contact and cooperation with the local citizenry are concerned. They have wielded power of condemnation suits in order to acquire campus property without exhibiting due concern as to how it may affect their relationships with townspeople. Such behavior inevitably breeds the traditional strife between town and gown, bringing with it recurring cases of irritation.

A college is a logical place for the development of the highest sort of democratic performance between college and community. A college offers a cultural and social center for townspeople that should be readily made available to them. It should be alert to the responsibilities it carries as a substantial segment of the community, participating in and supporting local community projects, if it expects cooperation with college projects. The conclusion seems obvious, but many are the cases that can be cited in which the contrary is true.

It might be well to take time out for a little serious thinking on this problem. Can you honestly say that your community is proud of the fact that it has a college in its midst? A negative answer calls for remedial action on the part of both groups.

THE ROVING REPORTER

Study While Laundering

A G.I. business loan obtained by two young World War II veterans helped to end a serious laundry problem at the University of Minnesota.

Frank and William Bedder of Minneapolis used a $10,000 loan to establish a self-service laundry, called "The Tub," in a shopping area next to the university campus.

Before the two brothers opened for business, laundry facilities at the overcrowded university were so inadequate that many students scrubbed clothes in bathroom and kitchen sinks. Now students bring their dirty clothes to "The Tub," toss them into automatic washing and drying machines and sit back with their books while the machines do the work. For a few extra cents, customers press their shirts in a complex machine that turns out a shirt a minute.

The laundry is equipped with twenty-eight washing machines, three large clothes driers, several mangles, and the pressing machine.

The veterans live in a small apartment in the basement of their laundry. They split the week, each working three days.

Sued for Practice

John T. Kelly Jr., University of Michigan student from Oak Park, Ill., sued a fellow student, Kenneth Donaldson of Willow Run, Mich., for $5000 damages as the result of an auto accident, but the trial took place in the law school's practice court.

What made this practice trial unique for law students was the fact that the whole case was based on a movie.

Practice court is a required course. The customary teaching method has been to give law students an outline of the basis for action, and then let them find their own witnesses and instruct the witnesses as to the action they have supposedly seen firsthand!

In an effort to bring the practice court procedure in line with genuine trial conditions, the law school prepared a film depicting a staged automobile accident in which Kelly, a pedestrian, was struck by an automobile driven by Donaldson. Driver and victim were portrayed by students from the speech department, as were the various onlookers, policemen and ambulance drivers. The film, supervised by the university's audio-visual education center, was taken from several angles just as the accident might have been witnessed by passers-by.

Next step after the movie was taken was to obtain witnesses, in this case students from the political science department. Each witness saw only that portion of the movie taken from the station he supposedly occupied on the sidewalk at the time of the accident. Each witness also saw the movie of the action after the accident, the arrival of a police car and an ambulance, and the removal of the victim to a hospital.

The student lawyers had never seen the movie. They had, however, questioned the witnesses and prepared their trial briefs on the basis of the testimony thus obtained.

The use of movies in teaching law is a new technic, believed to have several advantages over traditional methods. For example, after the case was tried and decided, the student lawyers saw the movie and learned for themselves how eyewitness testimony can sometimes differ from the facts!

The film offers a permanent basis for further practice cases, since it can be used later for other classes. Films illustrating other bases for legal action will be made later.

Professor's Machine

Everybody talks about the high cost of living but nobody does anything about it—how often you hear that statement in these days of soaring prices. Prof. Carl E. Gregory, New York University College of Engineering, *is doing something about it.*

He designed what he calls an econometer, and student engineers at the college built it, for the purpose of helping people understand what factors make our economy act the way it does.

The econometer is a hydrostatic device that presents a visual picture to the observer of general economic forces that affect the business cycle. Professor Gregory plans to use the machine for lectures before chamber of commerce groups, women's clubs, and other organizations in the same way he applies it for his engineering classes.

The instrument is composed of a balance held in equilibrium on a knife edge by a counterbalance arrangement. The face of the balance carries a two-way arrow 3 feet long. The arrow points on one side to a scale representing the changing value of a dollar. On the other side, it points to a scale showing the variation of prices.

Located near the outer extremities of the double arrow are two glass containers. The one near the price scale is filled with specified amounts of red liquid representing the amount of goods and services being sold on the market. The other container is near the dollar value scale and is filled with measured quantities of blue liquid representing the amount of purchasing medium that is active on the market during a particular period. Gravity keeps the glass containers perpendicular on the knife edge suspension. Specially constructed elongated funnels compensate for variations in position and catch the flow from above.

The four glass containers, two floating and two stationary, have petcocks by which the flow is controlled. By this means it is possible to demonstrate change in the forces encountered in a given situation. The liquid flow can be controlled into or out of the floating glass containers, no matter what their position may be on the arc. These rates of flow are analogous to: (a) increase or decrease of goods and services, and (b) increase or decrease of purchasing medium on the market.

Professor Gregory utilizes the machine in two ways: (1) for illustrating general economic theory in the classroom and at public lectures, and (2) for statistical work on problems concerned with present-day economy.

NEWS

Un-American Activities Committee to Descend on Colleges . . . Negroes Expected to Flood White Colleges . . . Urges Student Safety Check of College Plants . . . Join Forces for Independent Office of Education . . . Mature Students to Soviets

Washington Correspondent: BEN BRODINSKY

Urges Student Survey of College Safety Conditions

WASHINGTON, D.C.—College students can and should take part in school plant inspections to check on the safety of their environment, says the National Commission on Safety Education.

Such inspections are to be part of learning experiences in safety under the direction of qualified instructors.

"Under teacher leadership," says the safety commission, a unit of the N.E.A., "college students can make tours of buildings to check for such hazards as frayed electric extension cords, paints in open cans, unprotected inflammable liquids, dangerous stairways, unlighted passageways, and old costumes cluttered back of the college stage."

The safety commission also believes that in some instances a student group should accompany a qualified engineer as he inspects the school plant and campus for the more technical aspects of safety.

The commission says that students at Iowa State Teachers College, Cedar Falls, make regular surveys and recommendations with respect to safety conditions on the campus.

Un-American Activities Committee Goes to College

WASHINGTON, D.C.—"Yes, we have started an investigation of subversive activities in higher education," said a spokesman for the House committee on un-American activities last month.

The committee, however, refused to give details on the course of its investigation.

Observers believe that Columbia University professors and the newly installed president, Dwight D. Eisenhower, may be among the first to be probed by House committee agents.

The un-American activities investigation will probably be limited to a few well known universities and will be directed principally against selected instructors who are known as "radical" through their speeches or textbooks.

The committee will look especially close at college courses dealing with economics, foreign relations, and political science.

Chairman J. Parnell Thomas said that his committee is publishing a pamphlet to be entitled "One Hundred Things You Should Know About Communism in Education." This pamphlet, Mr. Thomas said, will deal with higher education for the most part.

Negroes Will Flood White Colleges for Early Admission

WASHINGTON, D.C.—Negro students will flood white colleges with applications for admission if they take the advice passed out in Washington last month by one of their spokesmen.

James M. Nabrit of Howard University said that such a "flooding" would either help Negroes to get better segregated school facilities or open the door of white institutions to them.

Dr. Nabrit addressed the presidents of seventeen Negro land-grant colleges who came to Washington for their annual meeting.

The group as a whole vigorously rejected segregation in education.

Dr. John W. Davis, president of the West Virginia State College for Negroes, said: "This is no time for pussyfooting. We are going to put our cards on the table. And they all read, No race segregation in colleges."

G.I.'s More Persistent

CINCINNATI.—G.I. students are sticking it out in junior and senior classes in a measure exceeding all postwar nonveteran records, Dr. Raymond Walters reports in a recent survey.

Eastern European Exchanges for Mature Students Only

WASHINGTON, D.C.—Young, politically naïve Americans should not be permitted to study in Eastern Europe under student exchange plans. This is the recommendation of the U.S. Advisory Commission on Educational Exchange.

In submitting its suggestions to the State Department on how to conduct student exchanges, the commission said last month that only students with mature judgment and experience can evaluate the instruction they are likely to get in the Soviet-dominated countries.

Further, the commission would have the State Department brief all students going into Eastern countries "as to the conditions they will encounter."

The commission urged that the United States maintain an open door policy in the interchange of students with countries in Eastern Europe.

"For the United States to close its doors to all contacts with those nations with whose philosophy it disagrees would be to pull down an iron curtain on our side of the Atlantic," the commission held.

Draft Evader Sentenced

PORTLAND, ME.—Federal Judge John D. Clifford Jr. sentenced Ralph E. Cook, Earlham College student, to a two-year term in prison for refusing to register for the peacetime draft. Ralph Cook is the son of the Rev. Lindley J. Cook, former pastor of Friends' Church in Portland and field director of the Maine Council of Churches. As a predivinity student, Ralph Cook would have been exempt from military service. Judge Clifford stated that it was "quite irrelevant in that an act of registration is the keystone of the system devised by Congress."

NEWS

Unite for Independent Office of Education

WASHINGTON, D.C.—The campaign to remove the U.S. Office of Education from the Federal Security Agency and place it under an independent national board of education has begun in earnest.

Solidly behind this campaign are the National Education Association, the American Association of School Administrators, and the Council of Chief State School Officers.

These three powerful organizations presented their case last month to a Senate investigating subcommittee headed by Senator Homer Ferguson.

As proposed, the new federal body for education would consist of two arms: (1) a U.S. commissioner of education responsible directly to the President and (2) a national board of education, whose members would serve without pay and whose functions would be advisory and not administrative.

In presenting the arguments for a reconstituted national educational agency, N.E.A. Secretary Willard E. Givens said: "The national government will be unable to put its own house in order in its relations to education until it establishes an independent office of education. The inadequacy of the present one stems from its lack of status and financial support and from the willingness of Congress to authorize or permit noneducational federal agencies to develop their own elaborate, expensive and overlapping agencies at national, regional, state and even local levels for dealing with education in the states.

"An essential step in correcting this situation would be the establishment of an adequate U.S. Office of Education, not as a subordinate bureau of some powerful department. It must have sufficient rank to deal directly with Congress and the President so that the voice of education will be heard in Washington."

Reproduces Copies of Historic Documents

WASHINGTON, D.C.—Historic documents in the custody of the archivist of the United States, such as the Bill of Rights, are now being reproduced in facsimile by the national archives for sale to schools and colleges.

So far fourteen documents, including photographs, have been produced in facsimile. The first in the series is the Bill of Rights, the original of which is now touring the country on the Freedom Train.

The facsimiles are for the most part the same sizes as the original documents. For instance, the Bill of Rights is 32 by 34 inches. It is reproduced on quality paper, is suitable for framing and sells for 55 cents.

Among other facsimiles available, each selling at 20 cents a copy, are the following: oath of allegiance of George Washington at Valley Forge (1778); revolutionary war recruiting poster (1776), and a broadside asking for money for completion of the Washington monument (1860).

Facsimiles of photographs include those of Sitting Bull (1876), Abraham Lincoln (1864), Robert E. Lee (1865), John J. Pershing (1921), and Dwight D. Eisenhower (1944).

Census Covers Number of College Students

WASHINGTON, D.C.—The U.S. Census Bureau is again counting the number of students enrolled in the nation's colleges and universities.

The bureau announced that as part of its yearly October population survey it will check on the number of young men and women, 18 to 34 years of age, enrolled in institutions of higher learning. The final figures will be nationwide in scope but will be based on a sampling technic instead of a person-by-person census, such as is made once a decade.

Census officials will make a special check on the number of veterans enrolled in colleges. Last year the census bureau found about 1,300,000 veterans of World War II enrolled in schools.

The figures for October 1948 will be available by January.

Aids in Selecting Radio Receivers

WASHINGTON, D.C.—A group of Washington educators and manufacturers has released a new brochure to help college administrators in selecting classroom radio receivers.

The forty-page publication is entitled Classroom Radio Receivers and may be obtained free from the Radio Manufacturers Association, 1317 F Street, N.W., Washington, D.C.

In an explanatory foreword, the booklet states: "The classroom radio receiver is the rural student's airway path to recognized centers of urban learning, and it is the city student's opportunity to learn from his rural neighbor. The radio is more than a device for equalizing educational opportunity. It offers advantages to all students in the enrichment of instruction."

The publication covers these features of radio receivers: type (AM, FM), source of power, controls, antenna, sensitivity, selectivity, output volume, and safety provisions.

Controlling Moisture Condensation in Attics

WASHINGTON, D.C.—Insulated attics should be either well ventilated or provided with a vapor barrier in the ceiling to avoid destructive moisture condensation on cold surfaces above the ceiling, says the Housing and Home Finance Agency.

While insulation of attics may save fuel, it sometimes creates condensation difficulties, particularly in structures located in the northern parts of the United States, the agency says.

These difficulties arise from the passage of water vapor from the heated parts of the house into the cold attic space. If water vapor passes through the insulated ceiling in sufficient amounts, and the attic space temperature drops low enough, the vapor will condense on roof boards, rafters and other cold surfaces, causing rot.

Ventilation may prevent this condensation. But louvered openings provided for ventilation are sometimes too small for the space to be ventilated. Their effectiveness depends upon weather changes and prevailing winds, and upon structural complexities of the roof. Sometimes these ventilation openings are boarded up for the winter. Screening commonly installed on them to keep out birds and insects also interferes with natural air currents.

Another means of controlling condensation in attic spaces is the vapor barrier, made of asphalt-treated paper or aluminum foil. This is applied to the underside of the attic joists before the laths are installed, and insulation is placed above it—or if blanket insulation is used, a vapor barrier may be incorporated in it.

Technical Bulletin No. 6, published by the Housing and Home Finance Agency, Washington 25, D.C., gives complete details on moisture condensation in attics.

AMVETS Threaten Suit Against V.A.

WASHINGTON, D.C.—Harold A. Keats, national commander of AMVETS (American Veterans of World War II), threatened legal action against the Veterans Administration as a result of the V.A.'s regulations limiting aviation training for veterans.

Originally, the G.I. Bill of Rights allowed flight training for veterans in college because it was considered vocational in nature. The last Congress, however, amended the G.I. bill to prohibit government subsidies after July 1 for any type of training that may be considered avocational or recreational.

The figures released by the Veterans Administration indicated that 57 per cent of the requests received by V.A. to determine whether training benefits would be allowed refer to flight training or aviation courses. Of these 6343 requests received, 144 were disapproved, 2427 were approved, and final action on the remainder is pending, awaiting submission of further evidence or action by the veterans.

Substantial Gift

LONDON.—Antonin Besse, a Frenchman who amassed a great fortune as a trader in the Near East, has given Oxford University £1,500,000, one-sixth of which is to be spent on living quarters for between fifty and sixty extra undergraduates, one-third of them French, and the rest on a post-graduate college, one-third of whose fifty-one students will be French. In order to carry out the donor's wishes, the St. Anthony Foundation, Ltd. has been set up in London.

Predict Future Enrollment

UTRECHT, HOLLAND.—Three hundred professors from thirty-three countries who met recently in Holland to discuss postwar problems of higher education predict that some 10,000,000 university students will be following courses of higher education in more than 4000 universities throughout the world by 1960.

Cancel House Parties

WILLIAMSTOWN, MASS.—Williams College fraternities have been ordered to cancel fraternity house parties as a result of a ruling by Dean Robert R. R. Brooks. Action was taken because student government "has failed to adopt minimum rules of general conduct."

Cornell Dedicates Atom Laboratory

ITHACA, N.Y.—A $2,000,000 laboratory of nuclear studies was dedicated at Cornell University last month in connection with the university's eightieth anniversary. Equipped with the latest and most powerful type of atom-smashing machines, a giant 300,000,000 electron-volt synchrotron, the new laboratory will become one of the world's major centers of research on the nature of the tremendous forces that hold the nuclei of atoms together, one of the major mysteries of the world.

New Gymnasium Is Dedicated

YANKTON, S.D.—Yankton College officials recently dedicated the new Nash gymnasium, which was planned with both college and community needs in mind.

The gymnasium, said to be one of the best in the Middle West, was built under the supervision of the college and the Federal Works Agency. The F.W.A. assisted in providing the steel for the building, as well as much additional surplus material and labor.

The main arena features two basketball floors, one for men and one for women. When not in use by the physical education department, the building can be converted to an auditorium that can comfortably accommodate 10,000 persons.

On one side of the arena are the offices and the physical education department, separate locker and shower rooms for men and women, and class and examination rooms. On the other side are a 50 yard cinder track, a special display space, a kitchen, and serving rooms.

Bans Student Strikes

TOKYO, JAPAN. — The Japanese Education Ministry has forbidden national student strikes and the formation of student chapters of political parties, declaring that all schools must maintain political neutrality and that "although freedom of students to engage in political studies and criticism of politics within their institutions must be respected, the schools are for education and not stages for a political struggle." The move was directed against the Communists, but it affects all parties.

Colleges Apply for G.I. Housing Units

WASHINGTON, D.C.—A recent report by the Public Housing Administration indicated that 65 per cent of all eligible colleges have applied for full ownership of Lanham Act housing erected on their land.

The report revealed that 723 institutions have a total of 133,000 G.I. housing units. As of late September, applications for transfer of title covered 727 out of a total of 1119 projects, the P.H.A. reported. This indicated that, as a result of the continuation of this emergency housing, accommodations would be available for a total of 88,000 college students.

Housing officials indicated that the emergency campus dwellings have been returning from $12,000,000 to $13,000,000 in rentals to the federal government annually, a large part of which will go to colleges for maintenance and upkeep when transfer of title is completed.

Supervise Spending in Student Exchange Program

LONDON.—The British Foreign Office recently announced that a joint United States-British commission has been created to supervise the spending of the sterling equivalent of $1,000,000 yearly to promote educational and cultural ties between the two nations through student exchange. The uses for which the money may be spent annually include the financing of studies, travel and maintenance expenses of exchange students.

The treaty, which puts into effect the provisions of the Fulbright Act passed by the United States Congress, was signed at the House of Commons by Foreign Secretary Bevin and Don C. Bliss, United States Chargé d'Affaires, in the presence of Senator J. W. Fulbright.

Add Student Center

NEW YORK CITY.—Barnard College officials have announced that construction has begun on a $100,000 two-story addition to Barnard Hall. The new addition is to be used as a student center and will provide a large lounge and a snack bar for day students who constitute two-thirds of the present student body. Four offices for student publications and government will be provided in the new building.

NEWS

Ohio College Acquires Additional Buildings

MARIETTA, OHIO.—The plant and grounds of the Marietta Chair Company were recently acquired by Marietta College at a price reported to be approximately $130,000. Terms of the sale provide for the vacating of the property within 120 days so that it can be taken over by the college.

The chair company buildings occupy 6 acres of ground adjacent to the college. The first three floors of the large central building will be converted into a dormitory to house 342 men. Classrooms, offices and a cafeteria also will be installed. The central building has been approved by a state building inspector as suitable for dormitory use after modification; other auxiliary buildings will be torn down.

It is hoped that the renovation of the building will be completed for the opening of the 1949 school year. Temporary government housing for single students now provided by the college will be torn down, and girl students will take over the present men's dormitory when the men move into the newly acquired property.

$80,000 Raised for Remodeling Chapel

CLINTON, N.Y.—More than $80,000 has been contributed during the last nine months by alumni and friends of Hamilton College for the purpose of remodeling the college's 120 year old chapel as a war memorial, according to an announcement by Dr. Thomas Brown Rudd, president.

Work on the restoration, which will alter the interior of the building to conform in architectural style with the exterior, is expected to begin soon after January 1. The memorial will honor the fifty-one Hamilton alumni who died in service in World War II, as well as 1800 others who were in the service.

Oklahoma Enrolls Negro

NORMAN, OKLA. — G. W. McLaurin, a retired Negro professor, has enrolled at the University of Oklahoma, where he will seek a doctor of education degree. It was the first time in the history of the institution that a Negro's enrollment had been accepted and followed a board of regents decision to end complete racial segregation.

Grants Aid Countries Devastated by War

WASHINGTON, D.C. — Fifty-five women students who have received grants from the American Association of University Women for study in this country in 1948-49 are enrolled in colleges and universities for training to be applied to problems of their war-devastated homelands. In the group are physicians, psychologists, social workers, and teachers intent on specialized studies in pediatrics and child welfare.

The students receiving the grants are from sixteen countries where educational opportunities have been reduced because of the war.

Approve Iowa State Engineering Building

AMES, IOWA.—Construction is expected to start this fall on a new electrical engineering building at Iowa State College, the finance committee of the legislature interim committee recently having approved $900,000 for construction funds.

Thomas K. FitzPatrick, college architect and head of the department of architecture and architectural engineering at Iowa State, says the building will be of the most advanced type of architecture and will contain the most modern types of mechanical and electrical equipment.

The main portion of the building will be three stories in height and will contain laboratories, classrooms, research facilities and administrative offices, a large power machinery laboratory, and a specially equipped lecture-demonstration room. Special soundproofed rooms will be featured for electronics research. Black-out rooms will be constructed for light and lighting research.

Gift to Aid Music

HOLLINS, VA. — Mrs. Malcolm W. Perkins of Asheville, N.C., an alumna of Hollins College, has given $50,000 to the school for the development of music. In addition to her gift to Hollins, to be known as the Sallie Gray Shepherd Fund, Mrs. Perkins has given a memorial garden to Westhampton College, Richmond, in honor of her mother, and has established the B. Armistead Shepherd Fund for Medical Research at the University of Virginia in memory of her brother.

Training School Project for Southern Illinois

CARBONDALE, ILL.—Contracts have been awarded by the state department of architecture and engineering for a new training school project at Southern Illinois University. The total amount of the contracts reaches $2,243,804.

Bids received on construction of the building were slightly in excess of the amount of money appropriated by the state legislature, which necessitated that the architects and the university administration make some slight modifications in the original plans. These modifications consisted primarily of equipment valued at some $75,000. An attempt will be made at the next session of the legislature to finance this equipment.

The building will have three uses: (1) class instruction, largely for the campus laboratory schools but with some space for university classes, (2) office space, and (3) general public rooms, such as an auditorium and a small theater.

Though this is the first educational building to be constructed at Southern Illinois University in twenty years, plans have been developing for the building for almost ten years, and money for its construction has been appropriated since the 1939-41 biennium.

The architectural style of the building will be modified Williamsburg. The building will stand on a high knoll with several levels for entrances. A 200 foot tower will surmount the central lobby.

Businessman Subject of Harvard Study

CAMBRIDGE, MASS.—A newly established center at Harvard University, financed by a grant from the Rockefeller Foundation, will study the importance of businessmen in the growth of American civilization.

The research project will be sponsored jointly by the faculty of arts and sciences and by the graduate school of business administration. The investigation was undertaken in the belief that the rôle of the businessman in American life has never been adequately understood and that some ideas may be arrived at about the place he will occupy in the nation's future.

Million and a Half for Atomic Energy and Cancer Research

ROCHESTER, N.Y.—The University of Rochester will begin work this fall on a major addition to its school of medicine and dentistry to house two projects sponsored by federal agencies. The United States government has appropriated a total of $1,517,378 for the two projects.

One project is a center for the atomic energy commission program to train physicians and medical technicians in problems relative to atomic energy development. The atomic energy commission will also pay the expenses of maintaining and operating the center in addition to the grant of $1,088,000 which has been appropriated for building and equipment.

The other project is a new wing for cancer research, control and teaching under a $434,368 grant by the Federal Security Agency. The grant covers both building and equipment and was made with the recommendation of the National Advisory Council and was approved by Dr. Leonard A. Scheele, U.S.P.H.S. surgeon general.

Half of Students Entering College Never Finish

NEW YORK CITY.—According to a recent survey conducted by Dr. Archibald MacIntosh, vice president of Haverford College, more than 50 per cent of all students who enter colleges or universities drop out before they complete their college careers. The highest mortality is in the freshman and sophomore years.

These are only a few of the conclusions reached by Dr. MacIntosh in his two-year study of America's 655 liberal arts colleges. The survey report was sponsored by the Educational Research Fund of the Tuition Plan.

In studying the report, it is observed that academic failure was found to be the chief cause of student mortality. The next most important contributing factor was lack of adequate finances. In attempting to place blame for this situation, Dr. MacIntosh said that the admissions director in colleges would have to take a large share of the blame for student failures. This conclusion was reached in view of the fact that it was felt admissions directors should take every precaution to ensure the entrance of students who had successfully maintained a required standard of academic performance.

In order to reduce the high rate of student mortality more adequate student guidance should be provided in colleges and universities. The survey indicated that in a great many cases colleges were inadequately staffed as far as guidance counselors were concerned. The size and nature of the college or university were also contributing factors to student mortality.

According to Dr. MacIntosh's report, the student mortality in the various groups was as follows:

Classification	*Percentage of Loss*
Junior colleges	32.1
Men's colleges (over 1000)	37.0
Men's colleges (under 1000)	55.5
Women's colleges (over 1000)	50.6
Women's colleges (under 1000)	45.2
Coeducational (over 1000)	61.1
Coeducational (under 1000)	55.7

The general conclusion of the report was that considerable improvement must be made in student counseling if any appreciable decrease in student mortality is to be achieved.

Gets Title to Housing

PRINCETON, N.J. — The Federal Public Housing Authority has transferred to Princeton University title to a group of former army barracks moved to Princeton during the winter of 1946-47. The surplus wartime buildings were given to the university under recent congressional legislation.

GIFTS AND FUND DRIVES

• **Stanford University's** acting president, Dr. Alvin C. Eurich, reported recently that during 1947-48 the university received the second highest volume of gifts in its history. A total of $2,351,761 was received from 7242 donors.

• **Cornell University** officials recently launched a two-year fund drive with an objective of $12,500,000. The campaign will be conducted throughout the nation and eventually will reach all of Cornell's 70,000 alumni.

• **New York Law School** officers are initiating a campaign for $500,000 for the purpose of buying the building recently leased by the institution and for the purpose of financing necessary alterations in the structure.

• **Princeton University** is now in the midst of its Third Century Campaign, the object of which is to raise $550,000 of expendable money and $5,000,000 of endowment for increases in faculty and administrative salaries. More than 2000 alumni have enrolled as campaign workers in 175 cities.

• **Washington College,** Chestertown, Md., has recently received the sum of $100,000 for a new men's residence hall unit as a result of action by the trustees of the Hodson Trust, established by the late Col. Clarence Hodson, a member of the board of the college at the time of his death in 1928.

• **Lafayette College** recently received one of its largest individual gifts when Allan P. Kirby, alumnus and trustee of the college, gave $500,000 for the construction of a new residence hall to be named for his mother. The building will house seventy-two students and will have its own dining room, kitchen, reception and game rooms.

• **Temple University** recently announced that gifts to its school of medicine exceeding $200,000 had been received for research in various special fields including work in cancer and pharmaceuticals, as well as grants to individuals.

NAMES IN THE NEWS

Col. George Hurst Paul has been named business manager of Green Mountain Junior College, Poultney, Vt. He succeeds **Fred W. Barrett,** who resigned last summer because of ill health. Colonel Paul returned to the United States in September after five years of service in Europe as an air force officer.

Waights G. Henry Jr. has been named president of LaGrange College in Georgia to succeed the late **Hubert T. Quillian,** who died in July.

The Rev. Joseph A. Kehoe, C.S.C., former prefect of discipline at the University of Notre Dame, has been named director of student welfare. According to administrative organization of the new department, Father Kehoe will be in charge of the physical, religious, recreational and general welfare of both undergraduate and graduate students.

NEWS

The Rev. C. Willis Schnelle, dean of Nebraska Christian College, has been named acting president until a successor to **Guy B. Dunning** can be named. President Dunning resigned after being seriously injured in an automobile accident. He had been president of the college since it opened in 1945.

Dr. Karl T. Compton, president of Massachusetts Institute of Technology, has been appointed by President Truman to succeed **Dr. Vannevar Bush** as chairman of the research and development board of the National Military Establishment. Dr. Compton's appointment became effective October 15. **Dr. James Rhyne Killian Jr.,** vice president of M.I.T. since 1945, has been named to succeed Dr. Compton as president of the institute. Dr. Killian became the tenth president of M.I.T. and its first alumnus to hold the post.

Dr. Andrew G. Truxal was inaugurated as president of Hood College last month. Dr. Truxal, who assumed his duties in July, went to Hood from Dartmouth College, where he had served as professor of sociology and chairman of the department of sociology. He is the third person to head the institution since it was organized in 1893 as The Woman's College of Frederick, Md. In 1913 the college was renamed Hood in honor of Mrs. Margaret E. S. Hood, who gave the ground which forms the nucleus of the present campus.

Dr. Abram Leon Sachar was installed last month as the first president of Brandeis University, new Jewish sponsored institution in Waltham, Mass., a suburb of Boston. The university received its pioneer class of 120 freshmen on October 14.

Dr. Raymond Binford, president emeritus of Guilford College in North Carolina, has been appointed assistant to the president of William Penn College, Oskaloosa, Iowa.

Willard N. James, formerly business manager of Hollins College, has been named vice president in charge of public relations for the college. **Calvin J. Haugh,** staff member of the veterans' service bureau at the University of Michigan, succeeds Mr. James as business manager.

William F. Looney, headmaster of the High School of Commerce, Boston, has been named president of Teachers College of the City of Boston. He succeeds the late **William H. J. Kennedy.**

Dr. Frank D. Fackenthal, former provost and acting president of Columbia University, has been named by the Carnegie Corporation of New York to be its educational consultant on college administrative problems for the ensuing year. Dr. Fackenthal will devote himself exclusively to advisory problems.

Dr. E. B. Norton, executive secretary of the National Council of Chief State School Officers, has been named president of State Teachers College at Florence, Ala. He will succeed the late **J. A. Keller,** who was killed recently in an automobile accident. Dr. Norton will assume his new duties December 10.

Col. Katherine A. Towle, ranking officer of the Marine Corps Women's Reserve, has resigned as dean of women at the University of California to return to active duty. Colonel Towle was formerly head of Miss Ransome's School for Girls in the East Bay.

Dr. William Fletcher Hand, vice president of Mississippi State College for thirteen years, died recently at the age of 75 years.

Harold Curtis Amos, formerly headmaster of Adelphi Academy, Brooklyn, N.Y., died recently.

Carl E. Snedeker, business manager of New Jersey State Teachers College at Montclair, died recently. **Bernard Siegel** has been named acting business manager.

Dr. Walter Gillian Clippinger, former president of Otterbein College, Westerville, Ohio, died recently in Dayton, Ohio. He was president of Otterbein College from 1909 until 1939, when ill health forced his retirement.

DIRECTORY OF ASSOCIATIONS

Association of College and University Business Officers

Central Association

President: Herbert Watkins, University of Michigan; secretary-treasurer: L. R. Lunden, University of Minnesota.

Eastern Association

President: Henry W. Herzog, George Washington University; secretary-treasurer: Boardman Bump, Mount Holyoke College.
Convention: Nov. 28-30, Mayflower Hotel, Washington, D.C.

Southern Association

President: W. T. Ingram, Alabama Polytechnic Institute; secretary-treasurer: Gerald D. Henderson, Vanderbilt University.

Western Association

President: Paul A. Walgren, University of Southern California; secretary-treasurer, George A. Hall, California Institute of Technology.

Schools for Negroes

President: V. D. Johnston, Howard University; secretary: L. H. Foster Jr., Tuskegee Institute.

Association of College Unions

President: Vernon L. Kretschmer, University of Illinois; secretary-treasurer: Edgar A. Whiting, Cornell University; editor of publication: Porter Butts, University of Wisconsin.
Convention: April 27-30, Broadmoor Hotel, Colorado Springs, Colo.

Association of Physical Plant Administrators of Universities and Colleges

President: William F. Holman, University of Minnesota; secretary-treasurer: A. F. Gallistel, University of Wisconsin.
Convention: May 1949, University of Arkansas, Fayetteville.

American College Public Relations Association

President: Max E. Hannum, Franklin and Marshall College.

College and University Personnel Association

President: Donald E. Dickason, University of Illinois; secretary-treasurer: Marion Darr, Purdue University.

National Association of College Stores

President: John H. Jenkins, St. Louis University; executive secretary: Russell Reynolds, 189 West Madison Street, Chicago.

National Association of Educational Buyers

President: Charles W. Hoff, University of Omaha; secretary-treasurer: Bert C. Ahrens, 45 Astor Place, New York, N. Y.
Convention: May 11-14, Hotel Statler, Boston.

PRODUCT INFORMATION

information on the materials, equipment and supplies with which an institution is built, operated and maintained and which are used in its various departments is of vital interest to those charged with the business operation. College and University Business recognizes the importance of this information and believes it has rendered a real service by grouping manufacturers' announcements and new product descriptions into a separate part of the magazine. We believe this is an infinitely better plan than to mix such information through the editorial pages where it becomes obscure and confusing.

You will find manufacturers' advertisements from pages 45-76. Pages 74-76 contain descriptions of new products and items of interest. Further details on any product advertised or described may be obtained without obligation and with a minimum of effort by use of the postcard below.

Index to "What's New"

Pages 74-76

Key

401 Holt Manufacturing Co.
Holt Sander

402 Harris Manufacturing Co.
Transcription Playback Instruments

403 Peck and Harvey
Reproduction Unit

404 United Floor Machine Co., Inc.
All-Purpose Floor Machine

405 S. Blickman, Inc.
Stainless Steel Sinks

406 J. A. Zurn Mfg. Co.
Grease Interceptor Flow Control Tee

407 Visualizer Company
Scribe Visualizer

500 Detroit-Michigan Stove Co.
Heavy Duty Line of Ranges

501 Stewart Hartshorn Co.
Fire Retarding Window Shades

502 Automatic Pencil Sharpener Co.
Apsco Midget Pencil Sharpener

503 Royal Typewriter Co.
Royal Portable Typewriter

504 The Kellogg Company
"Self-Opening" Cereal Package

505 Hanovia Chemical & Mfg. Co.
Ceiling Suspension Germicidal Unit

506 Radio Corporation of America
Deluxe Portable Sound System

Key

507 W. J. Voit Rubber Corp.
Athletic Ball Repair Unit

508 Wallach & Associates
Record Storage

509 Symmons Engineering Co.
Water Temperature Controller

510 Da-Lite Screen Company, Inc.
"Miniature Catalog"

511 Scott Paper Company
"Washroom Advisory Service"

512 National Lock Co.
"National Locks"

513 Paper Cup and Container Institute
"Paper Cups and Containers"

514 Creative Chemical Co.
Folder on Aquatone

515 Hotpoint, Inc.
Electric-Education Program

516 Fremont Rubber Co.
"Steps to Beautiful Floors"

517 The Liquid Carbonic Corp.
"Soda Fountains and Equipment"

518 Rubon Woodfinishing & Products Co.
Catalog

519 Varlar, Inc.
Sample Book

520 The Silex Company
Catalog

521 Chemical Corporation of Colorado
Insect Control Bulletins

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Index to Products Advertised

Key		Page
522	Ampro Corporation Movie Projector	65
523	Bausch and Lomb Optical Company Micro-Projector	46
524	Bell & Howell Company Movie Projector	69
525	Blank & Co., Inc., Frederic Wall Covering	71
526	Carrom Industries, Inc. Institutional Furniture	47
527	Clark Linen & Equipment Co. Institutional Furnishings	64
528	Crane Company Plumbing Equipment	3rd cover
529	De-Lite Screen Co. Projection Screen	68
530	Deagan, Inc., J. C. Chimes	70
531	Dick Company, A. B. Duplicator	73
532	Dudley Lock Corporation Locks	58
533	Finnell System, Inc. Floor Maintenance	51
534	Frooman and Associates, A. Book	62
535	General Fireproofing Company Aluminum Furniture	45
536	Harold Supply Corporation Institutional Furnishings	58
537	Hillyard Sales Companies Floor Maintenance	68
538	Hotpoint, Inc. Kitchen Equipment	55
539	Huntington Laboratories, Inc. Floor Maintenance	64
540	International Business Machines Corp. Accounting Machine	59
541	Kellogg Company Institutional Food	54
542	Legge Co., Inc., Walter G. Floor Maintenance	70
543	McArthur & Sons, Geo. School Towels	58
544	McCray Refrigerator Company Refrigerator	63
545	Medart Products, Inc., Fred Gymnasium Equipment	61
546	Minneapolis-Honeywell Regulator Co. Temperature Control	57
547	Moore, Inc., P. O. Key Control	66
548	Morse Boulger Destructor Co. Incinerators	53
549	National Chemical & Mfg. Co. Paint	68
550	National Lock Company Locks	60
551	Neumade Products Corp. Film Accessories	64
552	Peterson & Company, Leonard Laboratory Furniture	72
553	Powers Regulator Co. Shower Mixers	52
554	Presto Recording Corp. Recording Equipment	50
555	Radio Corporation of America Movie Projector	67
556	Roseman Tractor Mower Company Tractor Mower	72
557	Seseuer Mfg. Co., J. A. Plumbing Repair Equipment	72
558	Sexton & Company, John Institutional Food	4th cover
559	Simmons Company Mattresses	49
560	Sloan Valve Company Flush Valves	48
561	United Investment Counsel Investment Advisory Service	70
562	Universal Bleacher Co. Portable Bleachers	62
563	Vestal, Inc. Floor Maintenance	60
564	Webster Electric Company Recording Machine	53
565	Weis Manufacturing Co., Inc., Henry Cabinet Showers	56
566	Weston Electrical Instrument Corp. Electrical Instruments	66
567	Wickwire Spencer Steel Div. Wire Fence	72

November, 1948

Please ask the manufacturers, indicated by the numbers I have circled, to send further literature and information provided there is no charge or obligation.

WHAT'S NEW			
401	501	509	517
402	502	510	518
403	503	511	519
404	504	512	520
405	505	513	521
406	506	514	
407	507	515	
500	508	516	

ADVERTISEMENTS					
522	530	538	546	554	562
523	531	539	547	555	563
524	532	540	548	556	564
525	533	541	549	557	565
526	534	542	550	558	566
527	535	543	551	559	567
528	536	544	552	560	
529	537	545	553	561	

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INSTITUTION _____

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Chairs illustrated are No. 4303-2TA (with Tablet Arm).

It's *Goodform* for Good Classroom Work

REG. U. S. PAT. OFF.

COMFORTABLE seating in the classroom insures closer attention to instruction, and so contributes to better class work.

Restlessness and disturbing movements are reduced with students seated in Goodform Aluminum Chairs, because they are correctly proportioned and properly balanced. Seats and backrests are right in height, roomy and well-shaped, and may be upholstered with a luxurious cushioning of foam rubber.

Goodform chairs *stay* comfortable, too. The welded aluminum frames are rigid and permanently strong. Edges never get rough and splintery to damage clothing. Aluminum is fireproof, light to handle and easy to clean. Simple washing with soap and water keeps the smooth, anodic finish bright and sparkling.

Solid maple tablet arms, as illustrated, are now available with several models of Goodform chairs. Write us for further information and the local Goodform distributor's name. Ask for Institutional Chair Catalog.

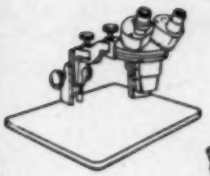
GOODFORM ALUMINUM CHAIRS

A product of **THE GENERAL FIREPROOFING COMPANY**

DEPARTMENT S-11
YOUNGSTOWN 1, OHIO

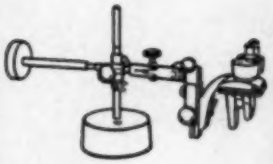
GOODFORM ALUMINUM CHAIRS • METAL DESKS • METAL FILING CABINETS • STEEL SHELVING

NEW Complete Line of BAUSCH & LOMB Stereoscopic WIDE FIELD MICROSCOPES

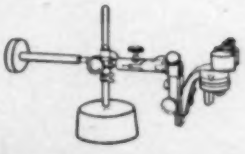


A truly *complete* line of different models. You can select to meet *your* specific needs. Revolutionary design and construction introduces new high standards of optical and mechanical performance.

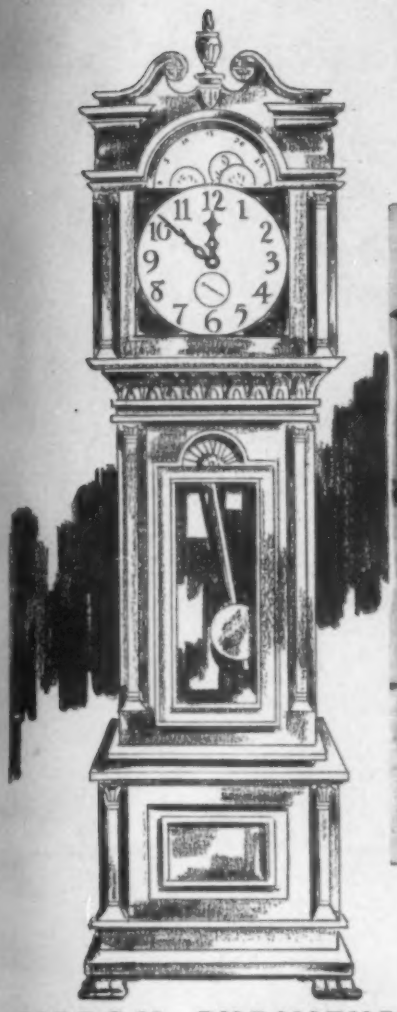
WIDER FIELDS • HIGHER EYEPOINT
DUST-PROOF NOSEPIECE... Sealed-in Prisms
STURDIER MECHANICAL CONSTRUCTION



WRITE for complete information and a demonstration. Bausch & Lomb Optical Company, 767-X St. Paul St., Rochester 2, New York.



WOOD *unchallenged for grace and charm!*



CARROM DORMITORY SUITE "Y"—The simple yet dignified character of this suite makes an exceptionally attractive and "homey" room . . . ideal for study and relaxation.

CARROM FURNITURE CRAFTSMEN *Build* FOR THE DECADES!

It is not enough that the material used for institutional furniture possess a mechanical strength of *highest* value in its ability to resist bending or compression. It should also possess that intimate and appealing beauty we sometimes define as grace and charm.

Wood is the one material — and the only material — that meets both these requirements. It is the one material of great strength that lends itself to an ease of manipulation that makes possible basic harmony and graceful lines in the finished furniture product.

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Select for strength, for economy, basic harmony, for grace and charm and you will choose Carrom Fine Wood Furniture, made by craftsmen who "build for the decades".

CARROM INDUSTRIES INC., LUDINGTON, MICHIGAN

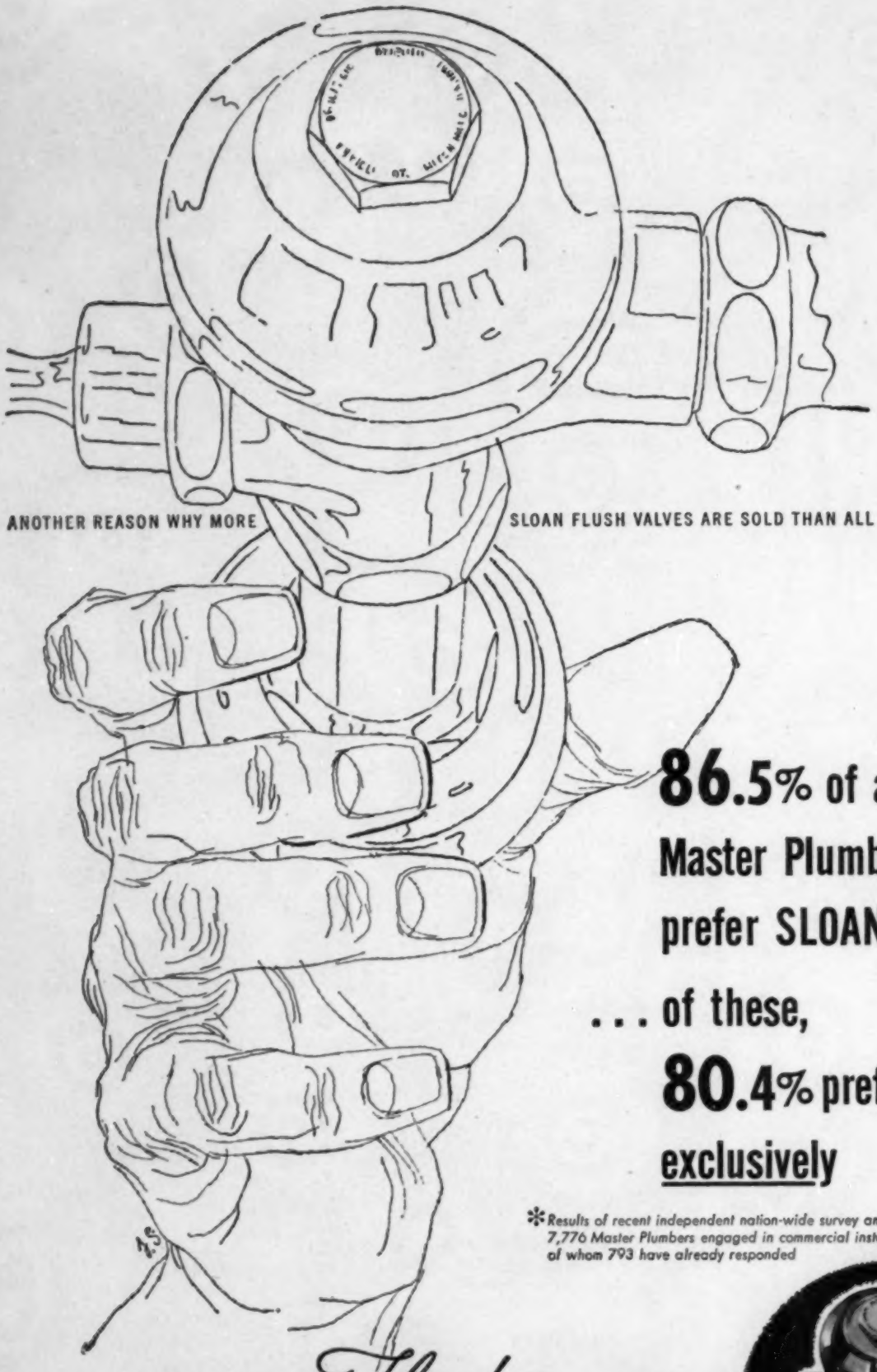
New York Office: 19 W. 44th St., Ralph Berg • Chicago Office: 1503 N. Sedgwick Ave., James L. Angle

CAREFULLY SEASONED HARDWOOD

Only the most select, close-grained Northern Hardwoods are used in Carrom construction . . . expertly seasoned and kiln dried in our own plant, under the close supervision of "Masters of Wood"!

CARROM

WOOD FURNITURE FOR DORMITORY SERVICE

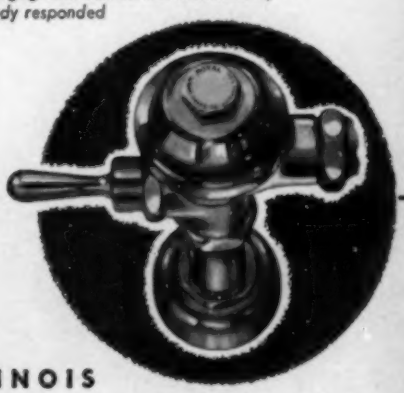


ANOTHER REASON WHY MORE SLOAN FLUSH VALVES ARE SOLD THAN ALL OTHER MAKES COMBINED

86.5% of all Master Plumbers* prefer SLOAN

. . . of these, 80.4% prefer SLOAN exclusively

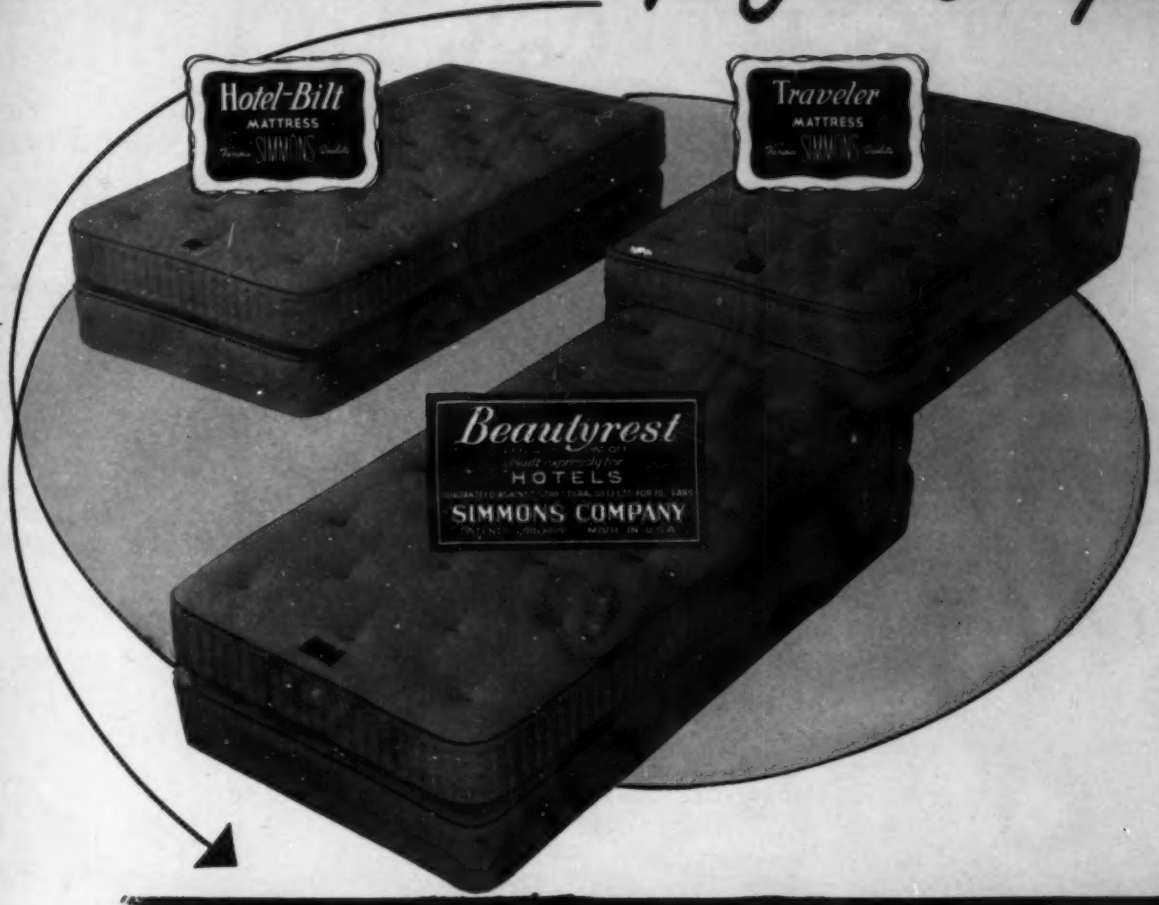
**Results of recent independent nation-wide survey among 7,776 Master Plumbers engaged in commercial installations, of whom 793 have already responded*



SLOAN *Flush* VALVES

SLOAN VALVE COMPANY • CHICAGO • ILLINOIS

Famous Simmons Comfort to *Fit Your Budget!*



Top Quality in Three Price Ranges!

WHATEVER your budget for sleep equipment, you will get more for your money when you choose SIMMONS BEAUTYREST, HOTEL-BILT or TRAVELER Mattresses with box springs.

All three styles are leaders in their field ... built to give real sleep comfort ... built to withstand far more than normal wear ... built to last! Hotels, tourist courts, and schools all over the country have confidence in the famous name—Simmons. It represents the finest in quality ... workmanship and construction.

Ask your Simmons contract distributor to show you the many features which have made Simmons sleep equipment *first choice* for comfort and economy.

Write contract office nearest you for mattress folder.

Beautyrest—The world's most comfortable mattress. 837 individually pocketed coil springs...patented sag-proof, pre-built border...8 screened air vents let mattress breathe...finest felt upholstery ... 4 cord handles ... specially woven gray and white pin stripe 8 oz. ticking!

Use ***Hotel-Bilt*** box spring with Beautyrest mattress.

Hotel-Bilt—For quality-wise, budget-conscious buyers! 299 coils of 14 gauge spring wire ... patented sag-proof, pre-built border ... 43 pounds of felt and sisal upholstery ... 8 screened vents ... 4 cord handles ... blue and white or brown and white 8 oz. ticking.

Hotel-Bilt Box Spring—72 coils, hand tied 8 ways ... soft felt upholstering ... heavy cloth covering over coils ... added reinforcing of frame with three cross braces ... diagonal iron corner braces ... ticking to match Hotel-Bilt or Beautyrest mattresses.

Traveler Mattress—Small-budget bedding at its best! 210 coil springs of 14 gauge wire for added firmness ... 45-pound felt and sisal upholstering ... long-wearing 6 oz. ticking!

Traveler Box Spring—matches Traveler mattresses in sturdy construction. 88 wire-tied coils ... stabilizers to prevent sideway ... thick pad of felt-sisal upholstering ... ticking to match Traveler mattress!

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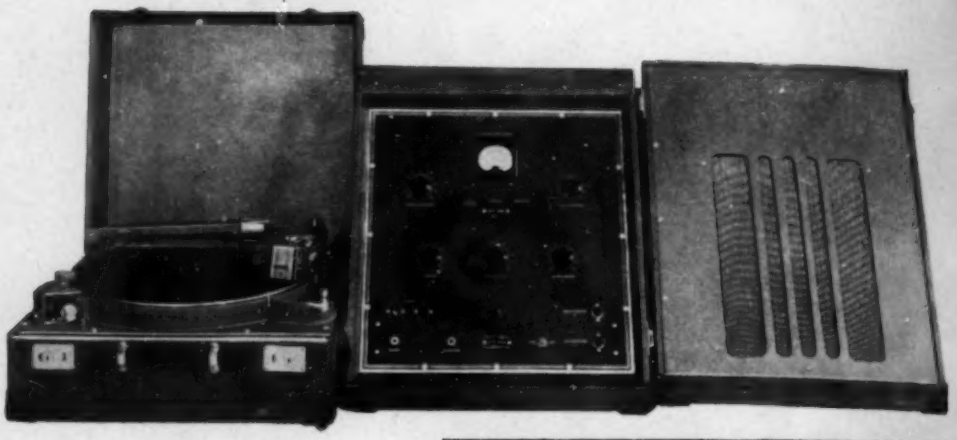
PRESTO RECORDING EQUIPMENT

gives you a Recorder, a Public Address System and a Record Player

...all in one



Speech correction

Voice training

Languages

Recording Programs

These are only a few of the ways you'll use Presto

MORE SCHOOLS use Presto than use any other recording equipment. The reason is simply this: the disc has proved to be the most universally useful recording medium and in Presto equipment reaches its highest level of quality and reliability. More than just a recorder, Presto is also a public address system and a record player.

You know how essential Presto can be for speech correction, voice training and teaching languages. Less obvious, but of equal importance, is the use you'll make of Presto in recording plays, choral work, classroom progress and many other activities in accordance with modern teaching techniques. You can also record notable radio broadcasts.

Model Y is the most economical, fully professional 16" recorder on the market. Model K is Presto's lowest priced complete unit. Both models operate efficiently as public address systems and record players for audiences as large as 500 people. In addition, Model Y high fidelity permits the making of master recordings from which phonograph records can be pressed in any quantity.

Write today for complete specifications and full information concerning the Presto model best for your needs.

Model Y, at top—amplifier, 16" turntable and 10" speaker pack in two easy-to-carry units, the speaker section is cover for amplifier. Speeds: 33⅓ and 78 rpm.

Model K, above—light and compact, complete in a single carrying case. Sets up for operation in minutes. 12" turntable. Speeds: 33⅓ and 78 rpm.

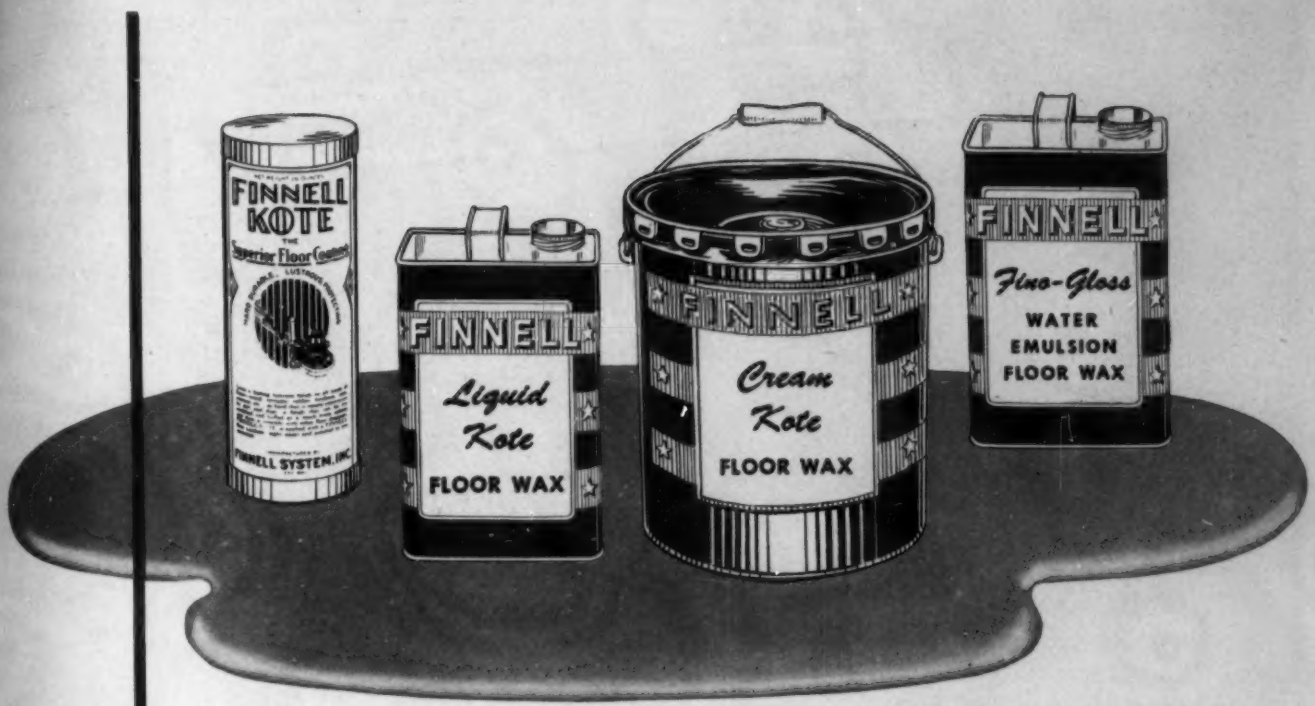
PRESTO

RECORDING CORPORATION

Paramus, New Jersey

Mailing Address: P.O. Box 500, Hackensack, N. J.

In Canada: WALTER P. DOWNS, Ltd., Dominion Sq. Bldg., Montreal



LONGER-WEARING WAXES

Reduce the Frequency of Waxing

SAVE LABOR COSTS!

In these days of high labor costs, it pays especially to choose waxes that require less frequent application. *Finnell Waxes* do because of their greater genuine wax content. *Finnell-Kote Spirit Wax*, for example, has a wax content three to four times greater than average floor wax. Such a wax not only affords better protection, but shows substantial savings in labor costs, on a year-to-year basis, as a result of fewer applications required.

Finnell-Kote is a solid wax; so solid, in fact, that it must be heated to liquid form before it can be applied. Heating is done in a *Finnell-Kote Dispenser* attached to a *Finnell Machine* (see illustration below). The melted wax is fed to the floor through the center of the brush ring, and penetrates deeply while the machine gives uniform distribution. *Finnell-Kote sets in less than ten seconds*, and polishes to a beautiful, non-skid finish.

Finnell Liquid Kote is *Finnell-Kote* in thick liquid form. Has the same basic stock as *Finnell-Kote* and all its fine qualities. . . . *Finnell Cream Kote* is a semi-solid (heavier-bodied than paste wax) of same basic ingredients, et cetera, as *Finnell-Kote*. Can be applied hot. . . . *Fino-Gloss* is a water emulsion wax. Requires no polishing or buffing. Also supplied in Special Non-Skid and Waterproof Types.

A 600 Series Finnell with Dispenser for hot waxing

The complete *Finnell* line includes *Combination Scrubber-Vacuum Machines . . . Portable Machines* for wet scrubbing, dry scrubbing, dry cleaning, waxing, and polishing . . . *Mop Trucks, Vacuum Cleaners* for wet and dry pickup, *Steel-Wool Pads*, and other accessories . . . *Cleansers* specially developed for the greater speed of mechanical scrubbing . . . *Sealers* and *Waxes* of every requisite type.

For consultation or literature, phone or write nearest *Finnell Branch* or Finnell System, Inc., 4411 East Street, Elkhart, Indiana. Branch Offices in all principal cities of the United States and Canada.

Everything FINNELL for Floor Care

FINNELL SYSTEM, INC.

Pioneers and Specialists in

FLOOR-MAINTENANCE EQUIPMENT AND SUPPLIES

BRANCHES IN ALL PRINCIPAL CITIES

For the SAFEST Control Made

Bathers can really relax and enjoy a Powers regulated shower. No danger of scalding. No unexpected temperature changes.

Back in 1923 Powers introduced the first and original pressure equalizing type water mixer.
Now it offers the SAFEST thermostatic water mixer made.

TYPE H MIXER For exposed piping ½" pipe connections. Capacity: 6 to 10 gals. per min. at 45 lbs. pressure. Dial diam. 3¼". Mixer for Concealed Piping has 6" diam. dial.

ONLY ONE MOVING PART

SIMPLICITY and durable construction insure many years of efficient carefree operation. Mixer body is made of bronze and parts subject to wear have a hard chromium finish.

CONTROL WITHIN ½°F.
reported by users. Is widely used in Hospital Hydrotherapy, Infant Baths, X-Ray and Color Film Developing.

use

POWERS

Thermostatic SHOWER MIXERS

they are SAFE against scalding caused by

1 PRESSURE *or* 2 TEMPERATURE

fluctuations in water supply lines

Get the best insurance you can buy for safe comfortable showers . . . install POWERS Type H Mixers. They're modern, really safe and non-scald.

Being thermostatic Powers mixers hold the shower constantly at whatever temperature the bather selects, regardless of temperature or pressure changes . . . two variables in all shower installations.

Powers mixers speed-up bathing. No time or hot and cold water is wasted while bathers wait for showers at the right temperature. For new installations or when modernizing present showers USE POWERS MIXERS.

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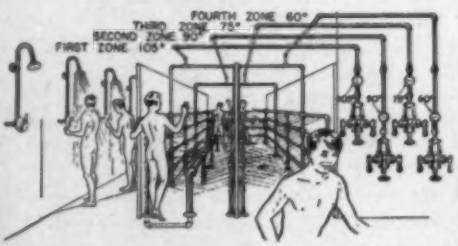
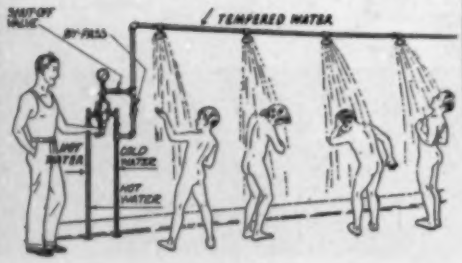
48HS

OTHER TYPES OF POWERS SHOWER CONTROLS

Below: Zone Shower for Swimming Pools



Below: Group Shower with Attendant



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OFFICES IN 50 CITIES • SEE YOUR PHONE BOOK
Over 55 Years of Water Temperature Control

The Finest in Portable Tape Recorders

- Superlative tone quality
- Faithfully echoes speech, music, and other sounds
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- Tape starts and stops instantaneously
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- Separate bass and treble tone controls
- Uses any standard magnetic recording tape

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Ekotape

RECORDER —— REPRODUCER

$395.00

f. o. b. Racine, plus any sales or other applicable taxes

See! Hear! Webster Electric's new *high quality* tape recorder-reproducer . . . the "Ekotape"

Webster Electric Company, Racine, Wisconsin announces a new high quality tape recorder. It is larger and has higher power output than most commercial or home recorders. It offers features that assure exceptional tone quality, better recordings, simpler operation, greater versatility. This recorder was designed only after an extensive survey of recorder users revealed what these users wanted and needed. The "Ekotape" meets their needs, and more! It's worth immediate investigation. It's a sound investment with features and advantages that more than justify any extra cost. Mail the coupon today for complete information.

Mail this coupon today for full information

Webster Electric Company, Racine, Wisconsin CU2

Please send me literature fully describing the new "Ekotape" recorder-reproducer.

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Organization.....

Address.....

City.....Zone....State.....

If a dealer, please check here ☐

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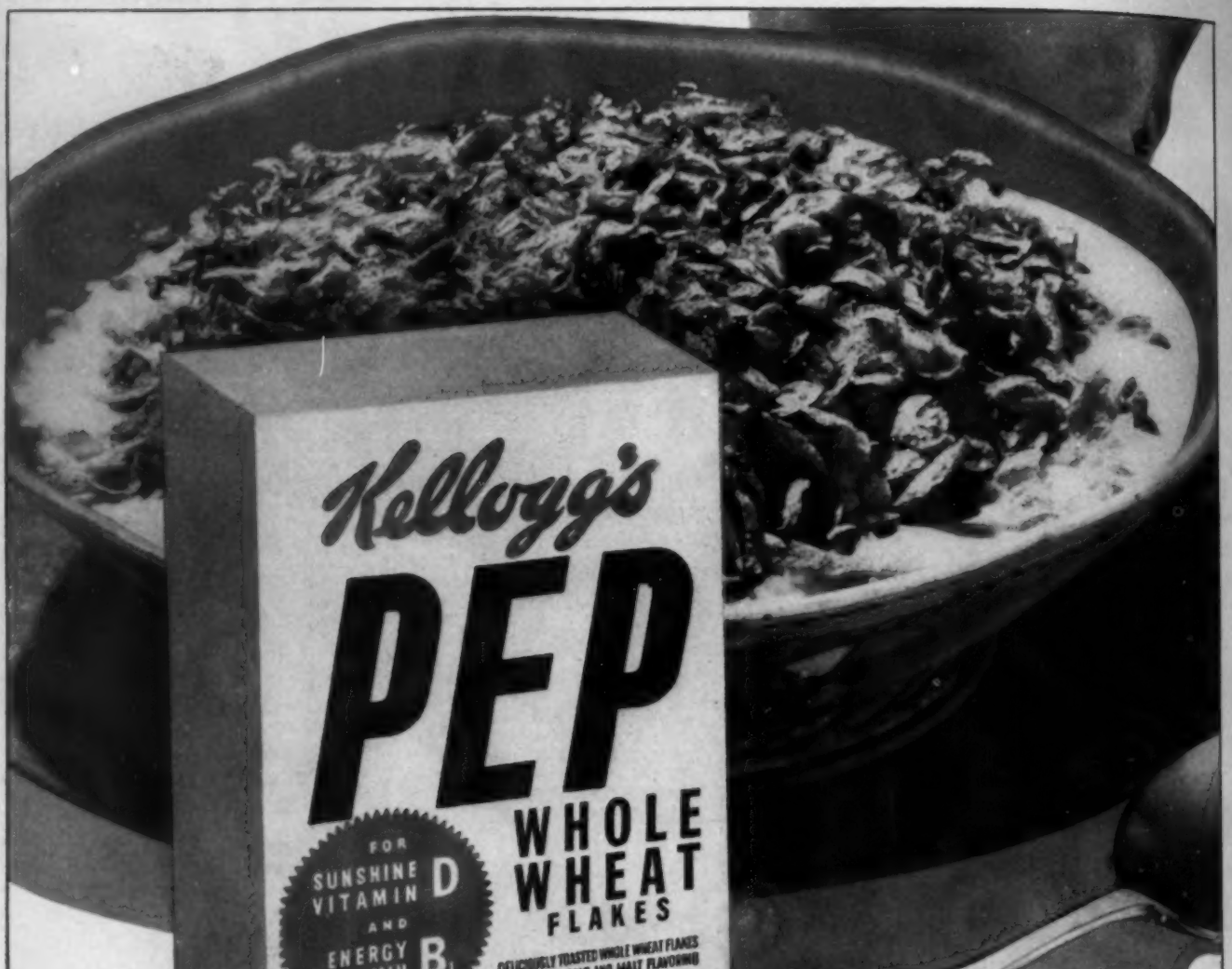
RACINE WISCONSIN

Established 1909

Export Dept. 13 E. 40th Street, New York (16), N. Y. Cable Address "ARLAB" N. Y. City

"Where Quality is a Responsibility and Fair Dealing an Obligation"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PEP
WHOLE WHEAT FLAKES
FOR SUNSHINE VITAMIN D AND ENERGY VITAMIN B1
DELICIOUSLY TOASTED WHOLE WHEAT FLAKES WITH SUGAR, SALT AND MALT FLAVORING
MADE BY KELLOGG CO., BATTLE CREEK, MICH.

That "Straight-From-Home" Taste....

REMEMBER that friendly, familiar flavor of Kellogg's Pep?

Your students do, too—they know Kellogg's cereals as well as they do the kid who lived next door back home.

That's why Kellogg's cereals are so welcome to undergraduates. They're used to them. They like 'em. They want them. As a matter of fact, Kellogg's cereals are far more popular than any other brand.

Order the individual size and see how the students go for a package of their own.

P.S. to Dietitians: a single bowlful of Pep contains the day's need of vitamin D—plus *twice* as much thiamine (vitamin B_1) as the good whole wheat from which it's made.

KELLOGG'S CORN FLAKES · RICE KRISPIES · PEP · KELLOGG'S 40% BRAN FLAKES · KRUMBLES
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MORE STUDENTS LIKE Kellogg's BEST

THE GREATEST NAME IN CEREALS

Battle Creek and Omaha

"Hotpoint Electric Equipment Repays Cost 3½ Times"

At left, Chief Chef Victor A. Ebding and assistant C. P. Fielder of Olive View Sanatorium.

Kitchen of Olive View Sanatorium showing modern Hotpoint equipment

Olive View Sanatorium Reports Amazing Results Of 11½ Years' Experience With Hotpoint Electric Equipment

IN 1936, Olive View Sanatorium (Los Angeles County, California) organized a committee to investigate the relative merits of various types of cooking equipment. They found that electric equipment offered these advantages: "Cooler, cleaner, requires less ventilation, easier to regulate, better control, safer, less meat shrinkage, less pot cleaning, decreased fuel consumption, and minimum temperature fluctuation."

They also found that: *"Almost without exception, all chefs who have used both fuels are enthusiastically in favor of electricity."* A short time later, Olive View Sanatorium installed a Hotpoint Electric Kitchen—including 4 double-deck roasting ovens, 1 range, 6 griddles and 2 fry kettles.

Today—after 12 years—Olive View reports that their Hotpoint equipment is still in perfect condition! Non-electric equipment previously used had to be replaced every 7 years. Maintenance cost, which had averaged 10%, now averages only ½%.

Tests conducted in the Olive View kitchen prove Hotpoint Ovens have cut meat shrinkage 4% to 9%—a savings averaging about $95.00 a month. For the 11½ year period to date, this totals approximately $13,100—enough to repay the original cost of the equipment over 3½ times!

Olive View also reports that improved working conditions have increased both efficiency and morale of kitchen help. Their Hotpoint Electric Kitchen is a full 15° to 20° cooler than with previous equipment—and free of fumes and soot. Management states that kitchen walls had to be repainted only once in 9 years—compared to every 2 years with non-electric equipment.

Space occupied by compact Hotpoint equipment is considerably less than with former equipment—and the cost of operating this equipment, as proved by Olive View's own records, averages only about seven-tenths of one mill per meal per person! Olive View reports, "We feel that the installation of Hotpoint electric equipment was the best step that could have been taken to improve our facilities and working conditions."

Every Day With Hotpoint

1. **Saves Food Flavors**—Conserves maximum of natural juices, gives uniform results.
2. **Cuts Food Costs**—Reduces meat shrinkage, saves up to 60% on consumption of fat.
3. **Cuts Labor Costs**—Saves hours for cook, saves on cleaning and scouring, too.
4. **Lasts Twice as Long**—Independent study shows depreciation rate is cut in half.
5. **Cuts Maintenance Costs**—Analysis shows annual costs average 1-1½% of investment for Hotpoint, 2-5% for most flame types.
6. **Saves Kitchen Space**—Compact, easy to install in most efficient arrangement without regard to chimneys.
7. **More Efficient**—Midwestern university tests show that Hotpoint equipment is 2.68 times more efficient than flame type.

Everybody's Pointing to

Hotpoint

COMMERCIAL ELECTRIC COOKING EQUIPMENT

Hotpoint Inc., A General Electric Affiliate, Maker of Ranges • Bake Ovens • Roasting Ovens • Fry Kettles • Broilers • Griddles • Custom-Matched Counter Appliances

MAIL TODAY!

Hotpoint Inc., Commercial Cooking Equipment Division, 5613 West Taylor St., Chicago 44, Illinois.

Please send me literature describing users' experience with Hotpoint Commercial Electric Cooking Equipment. Also details of complete Hotpoint line.

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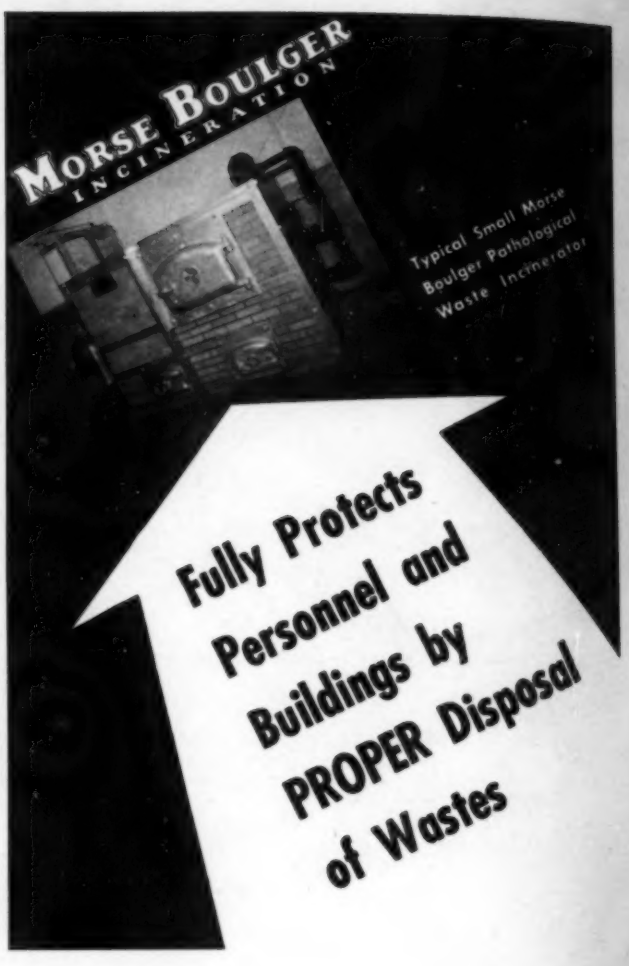
And chances are, if he's in the business management of a university, he knows, too, that Weisway Cabinet Showers "can take it." Weisways have this kind of stamina because they are precision-built of service-tested materials.

Check Weisway construction. You'll find durability in the leakproof Foot-Grip, No-Slip floor of vitreous porcelain enamel. Yes, from their gleaming white enamel walls to the hidden construction details, you'll find evidence of long-lived dependability in Weisway cabinet showers. Write for full information.

HENRY WEIS MANUFACTURING CO., INC.
1139 WEISWAY BUILDING, ELKHART, INDIANA

A battery of Weisway Cabinet Showers

Weisway
CABINET SHOWERS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Typical Small Morse Boulger Pathological Waste Incinerator
Fully Protects Personnel and Buildings by PROPER Disposal of Wastes

Health isn't the only factor to be considered in connection with school wastes. There's a very definite fire menace if combustible wastes are allowed to accumulate in or near buildings prior to cartage. And contaminated wastes should not be ignored.

The only sure way to dispose of trash, garbage, organic matter and other wastes to be found in and around schools and institutions is by incineration in a properly designed built-in or separate incinerator.

Here is where our engineers, with nearly 60 years of experience, can be of great help. Having a variety of incinerators from which to select, we are not limited in our choice. We can select the unit best in type and size for your requirements. Write us about your problem.

MORSE BOULGER DESTRUCTOR CO.

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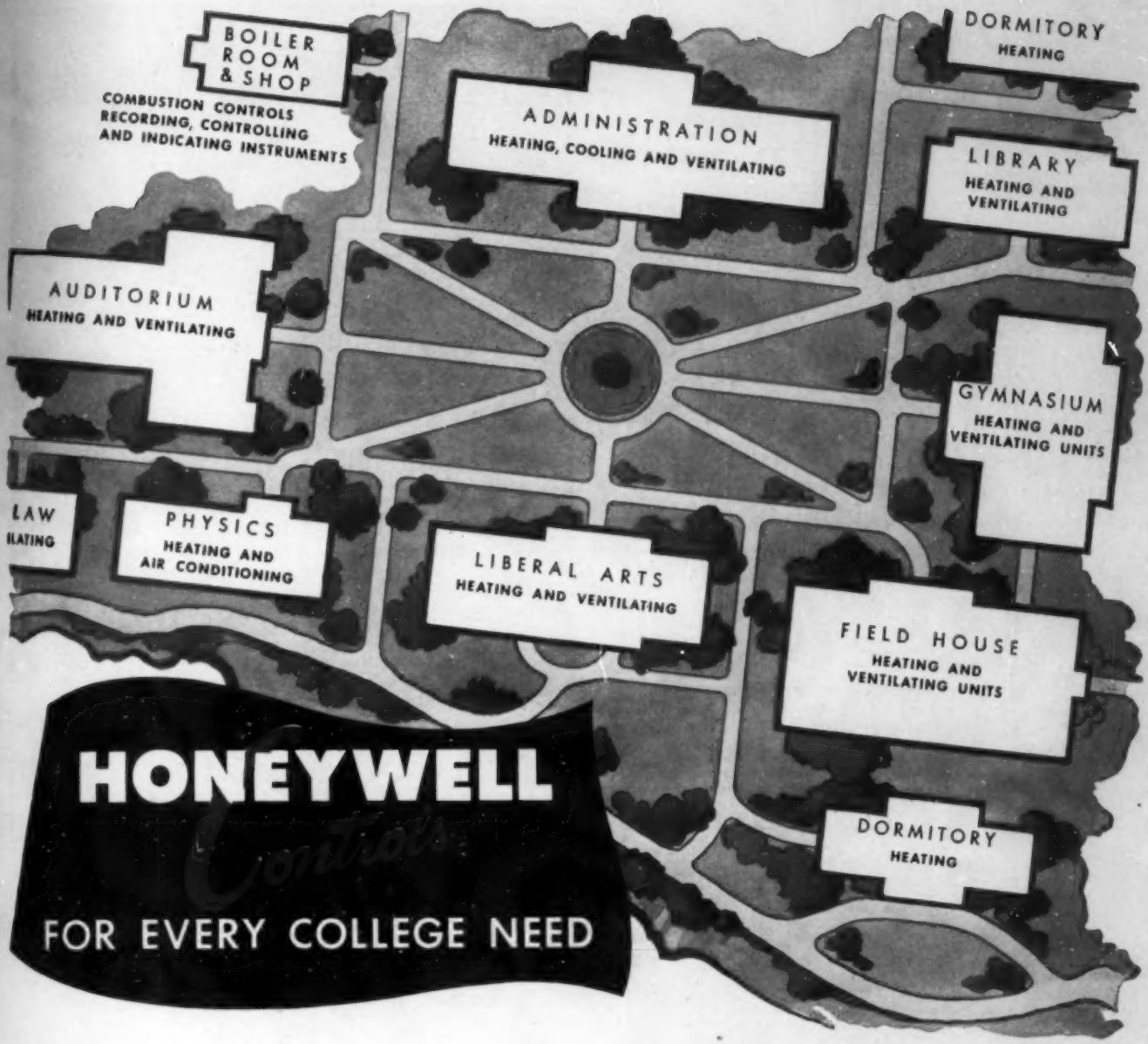
REPRESENTATIVES IN PRINCIPAL CITIES



FOR any building on the campus—in the plan stage, or already standing—there are Honeywell automatic controls to meet every individual problem.

Wherever Honeywell controls are used, it's assurance of plant equipment operating according to design—at its best. That's because Honeywell's background of engineering knowledge and experience, multiplied for more than sixty years, represents the ability to recognize the problem, the requirements and the solution. The result, from your standpoint, means proper health and study conditions plus maximum operating efficiency, with heating economy.

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No more exasperating delays . . . no locks to cut off . . . after you standardize on dependable Dudley Locks throughout your school. With the Dudley Master Chart an authorized person quickly opens any locker.

RD-2

Rotating combination dial. Precision, 3-tumbler mechanism in stainless steel case. Guaranteed for two years.

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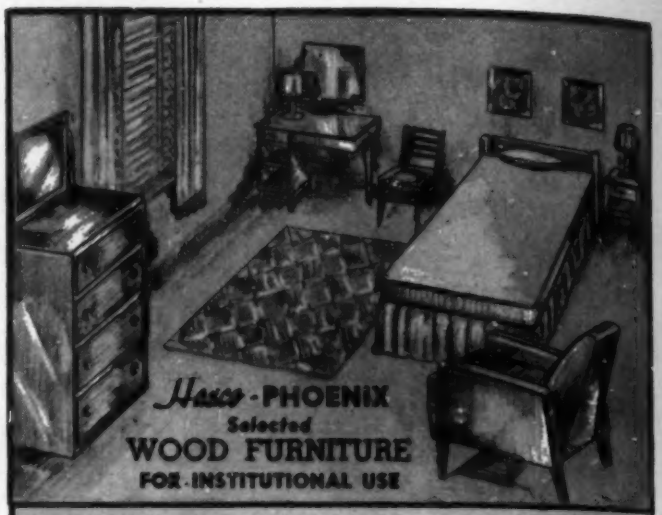

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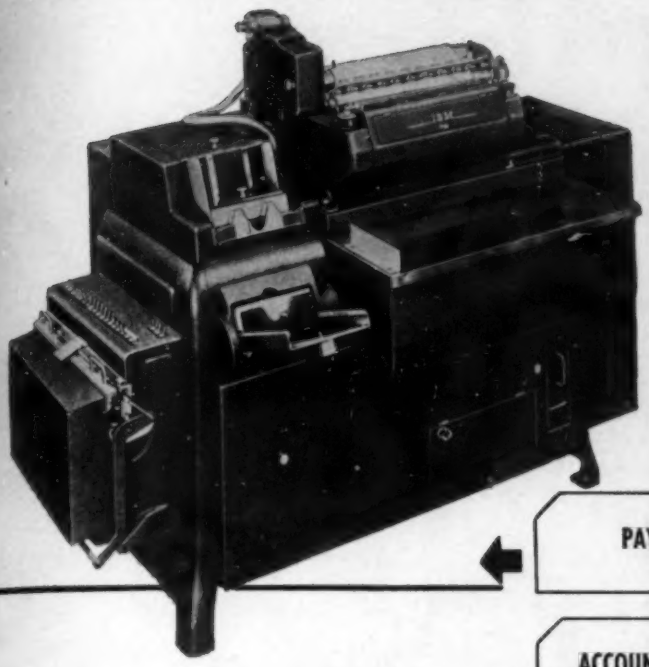

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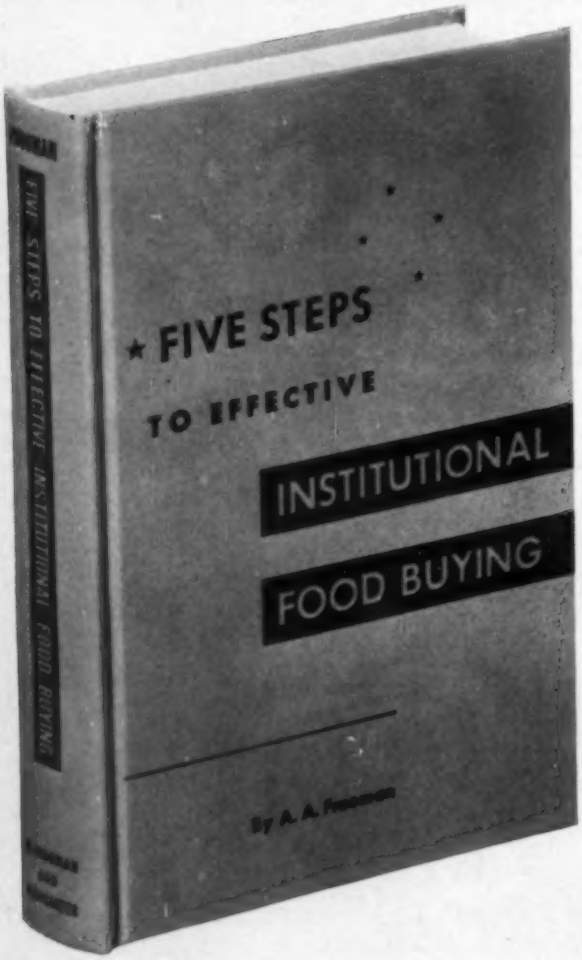

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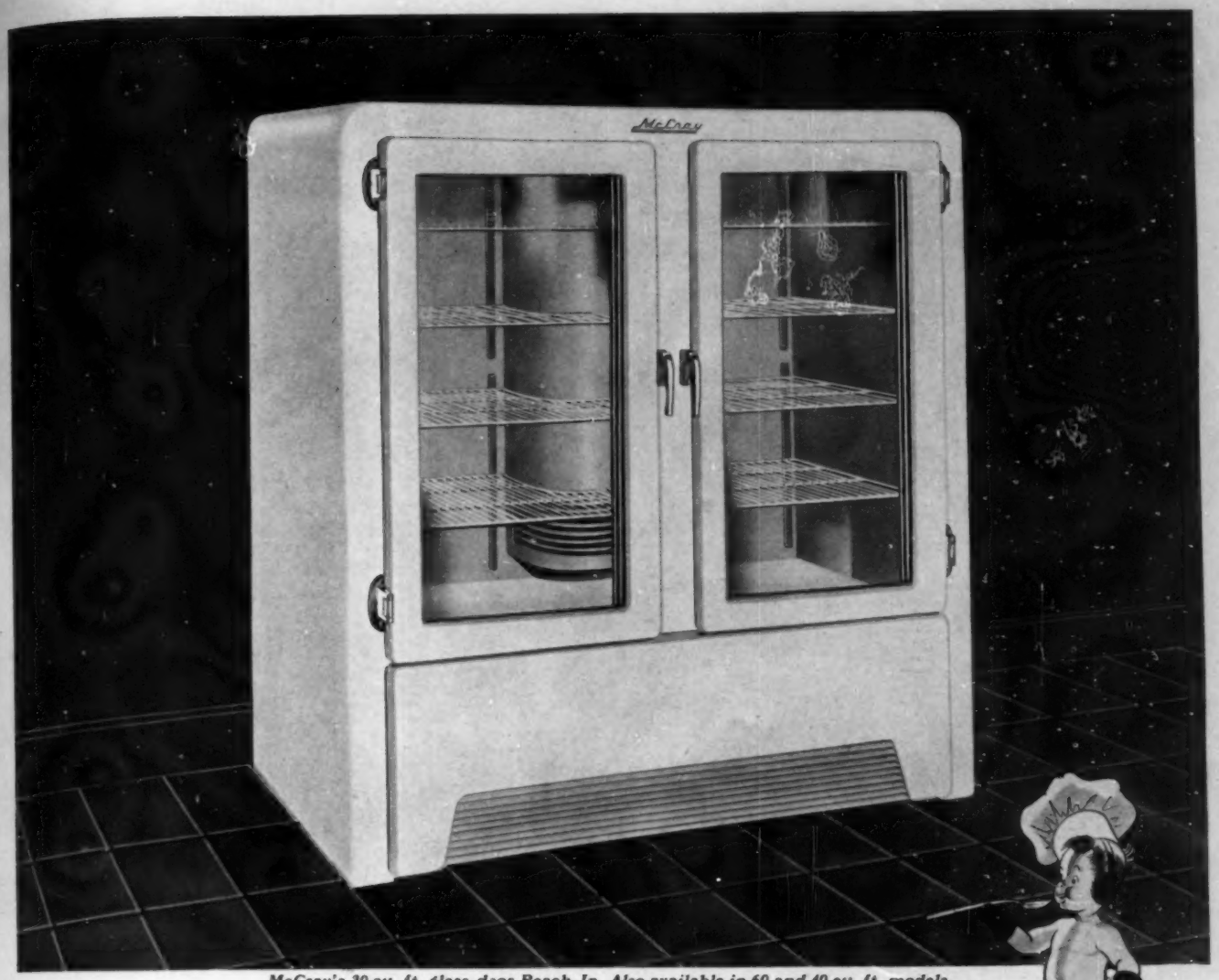

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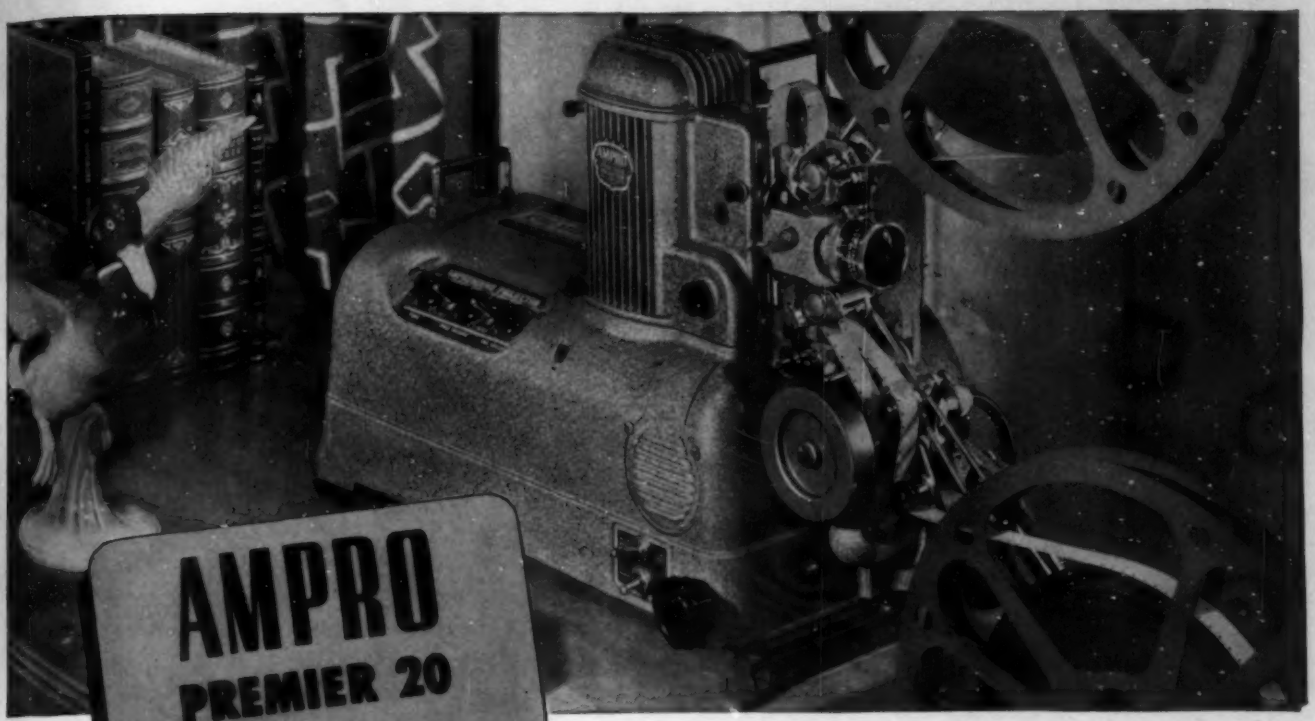

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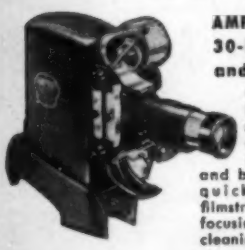

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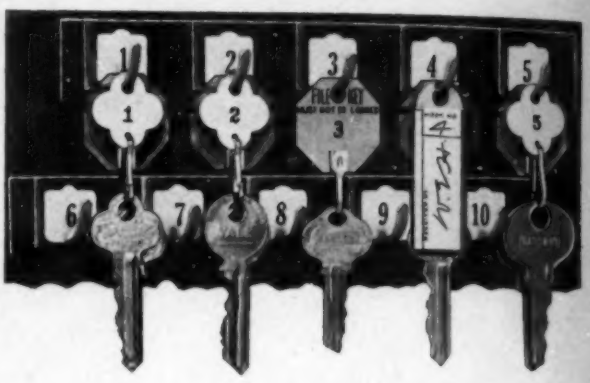

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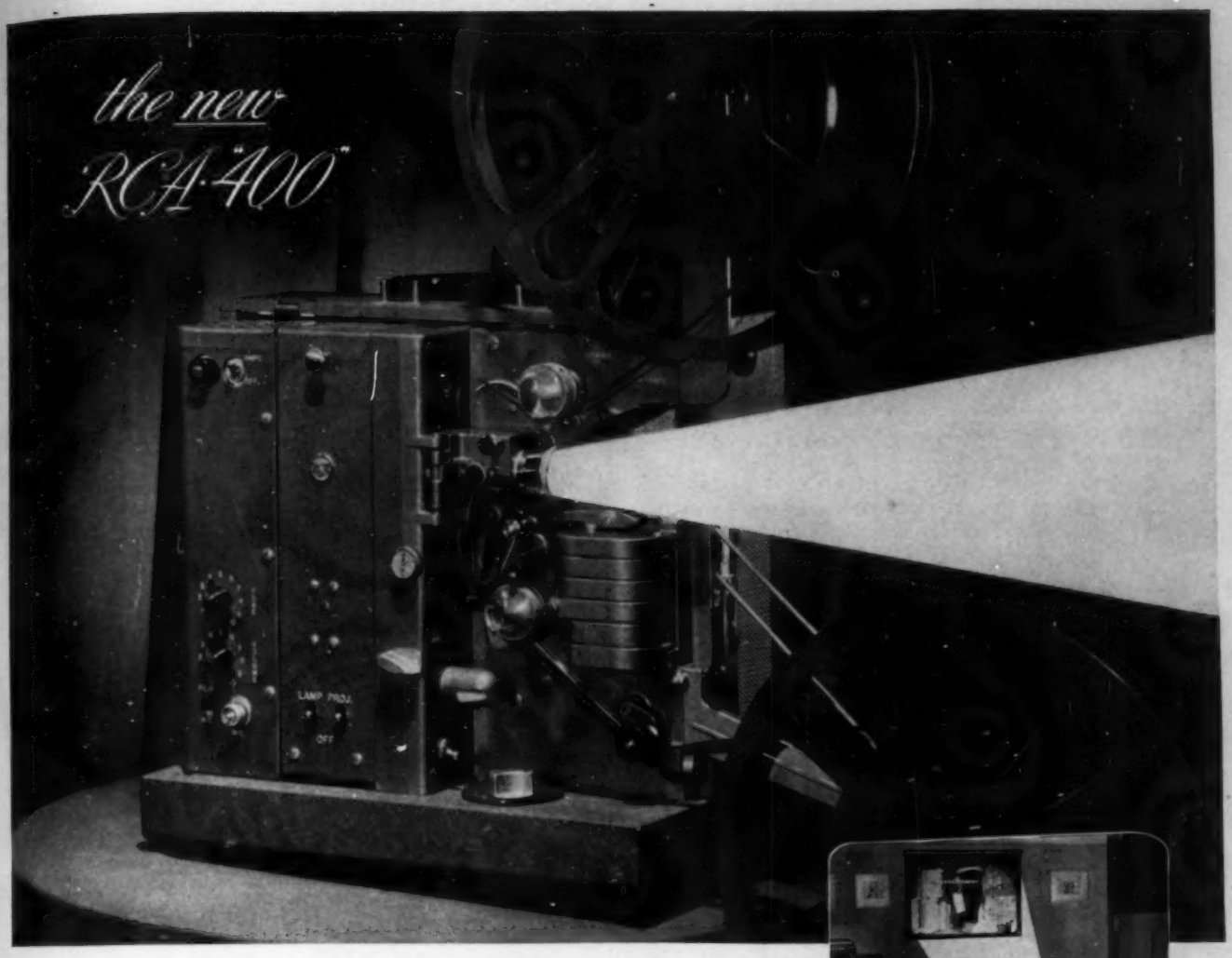

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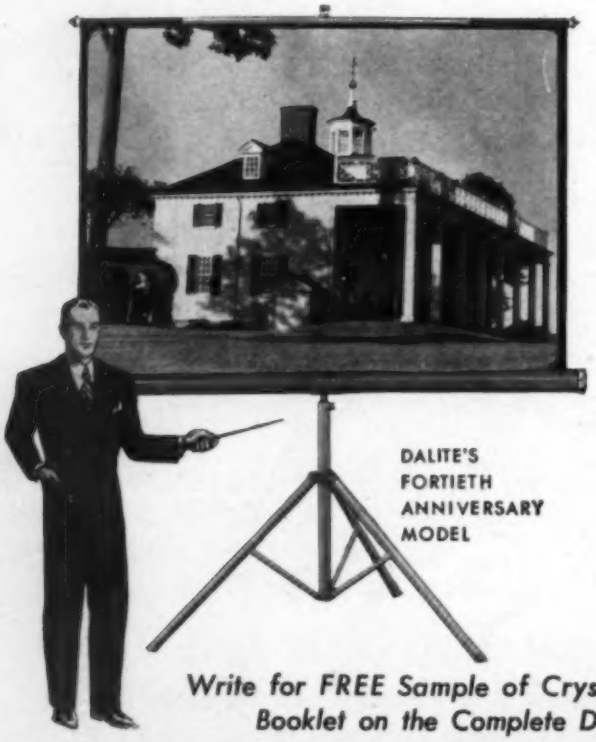

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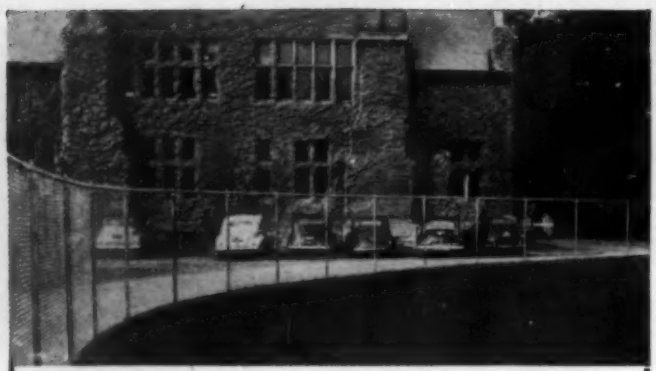

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Used in protection of power plants, schools, reservoirs, hospitals, disposal plants, and similar types of property, a Realock® Fence provides years of trouble-free service. Made of steel wire, heavily galvanized, it is tamper-proof, weather-resistant, low in cost—furnished with or without barbed wire at top.

Let us submit estimates for fence material ready for erection or covering complete installation by trained crews. Write to our nearest office.

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THE COLORADO FUEL AND IRON CORP.
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are fabric-reinforced like a tire

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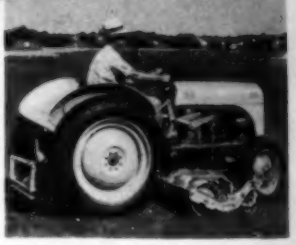
FOR LOW-COST FLEXIBLE MOWING



The mobility, the speed of operation, the ease of handling, the ability to eliminate hand trimming and the low operating cost make the PARK CHALLENGER a mowing unit to be desired by every progressive executive responsible for turfed areas.

The PARK CHALLENGER (three Roseman Roller-Drive Mowers mounted on the new Ford Tractor or the Ford Tractor-Ferguson system) mows a swath 7 ft. wide. The unit can be attached or detached in a matter of minutes. The fingertip hydraulic control raises the mowers instantly to a maximum height of 10 inches. *Write for complete information.*

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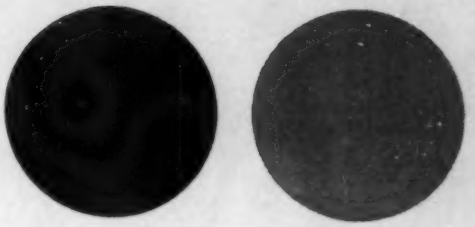

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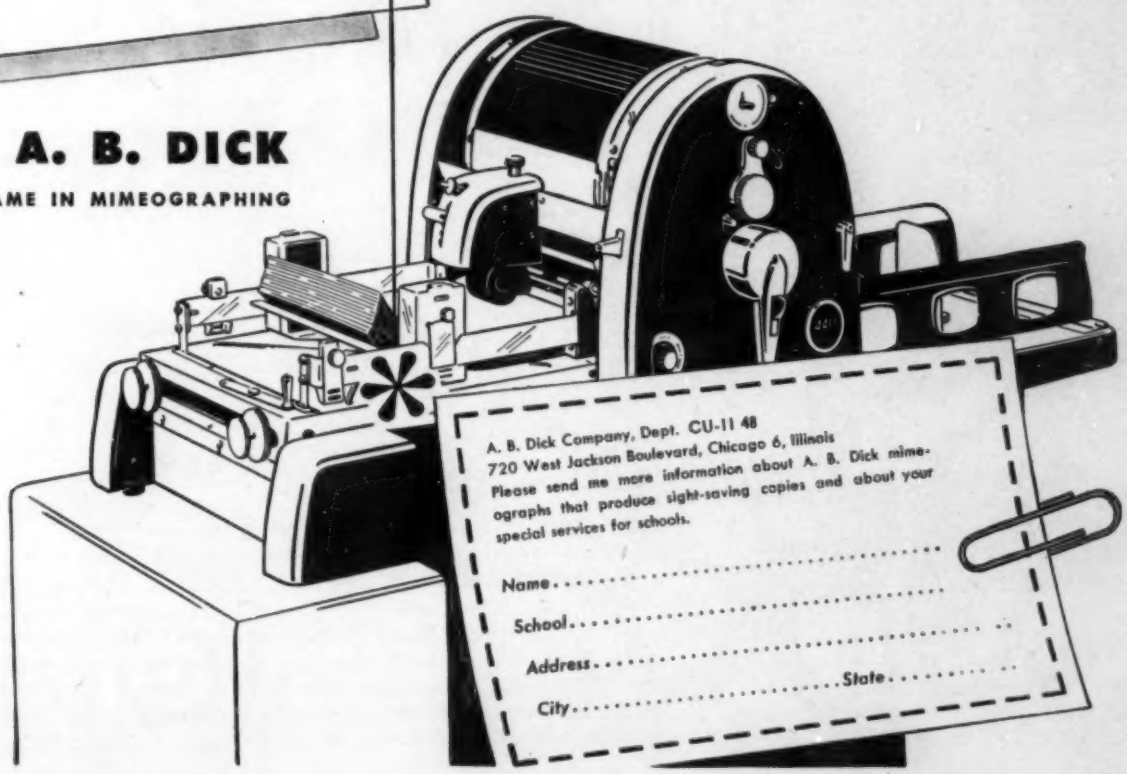

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WHAT'S NEW

NOVEMBER, 1948

Edited by Bessie Covert

TO HELP you get more information quickly on the new products described in this section, we have provided the postage paid card opposite page 44. Just circle the key numbers on the card which correspond with the numbers at the close of each descriptive item in which you are interested. COLLEGE and UNIVERSITY BUSINESS will send your requests to the manufacturers. If you wish other product information, just write us and we shall make every effort to supply it.

Heavy Duty Line of Ranges

A complete new line of heavy duty ranges and attachments is being announced by Detroit-Michigan Stove Company. Improvements in the line include the new Flo-Line design, larger Even-Temp oven, loop style oven burner, new system of flue ventilation, new Dura-Bilt oven heat control, new type Under-Lock high shelf brackets and new Co-Designed attachments.

The line of ranges has been completely redesigned from base to high shelf to provide new efficiency, convenience, economy and attractive appearance. Known as the 45-29 series, the new line includes ranges with all hot top, open top and fry top, all with or without ovens. Attachments are also redesigned and provide important new features. **Detroit-Michigan Stove Co., Dept. CUB, 6950 E. Jefferson Ave., Detroit 31, Mich. (Key No. 500)**

Fire Retarding Window Shades

The new Diana Fyrban window shades are made of Vinylite plastic and have proved in tests to be undamaged when subjected to flame. In addition they are sunproof and waterproof, can be washed without damage, and should give long service with simplified maintenance. **Stewart Hartshorn Co., Dept. CUB, 250 Fifth Ave., New York 1. (Key No. 501)**

Apsco Midget Pencil Sharpener

A new model has been added to the line of Apsco pencil sharpeners. Known as the Midget, the new sharpener is equipped with the Apsco solid steel twin-milled cutters and is designed to sharpen standard size pencils only. It is economically priced and attractively designed with bright yellow enamel finish and nickel plated and polished steel receptacle. **Automatic Pencil Sharpener Co., Dept CUB, Rockford, Ill. (Key No. 502)**

Royal Portable Typewriter

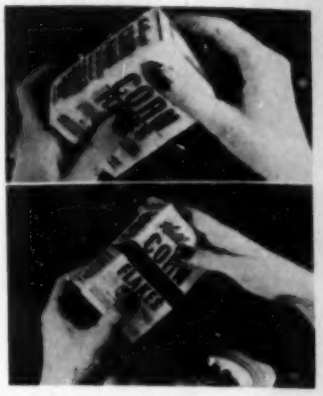
The new Royal portable typewriter has been designed by Henry Dreyfuss, industrial designer, with great functional beauty and eye-appealing proportion of height to width to depth. Finished in two-tone gray and black, the machine has finger form keys constructed scientifically to follow finger contours and to give greater finger clearance.

Other features of the new machine in-

clude the new Speed Spacer which is built into the frame to speed spacing action and provide broader striking surface; the new Rapid Ribbon Changer to simplify ribbon changing; the larger and more accessible Line Finder; newly designed Line Space Selector, and several other new mechanical improvements in addition to the standard Royal features. **Royal Typewriter Co., Inc., Dept. CUB, 2 Park Ave., New York 16. (Key No. 503)**

"Self-Opening" Cereal Package

Individual service packages of cereal can now be served without being opened until ready to be used. The Kellogg Easy-Opener Individual can be opened by a simple pressure of the thumbs on either side of the score mark on the face of the package and a slight twist of the carton. This one movement opens both the outer carton and the special, moisture-proof inner Waxtite bag which keeps the cereal fresh. The new package ensures sanitary service and saves time in the kitchen. **The Kellogg Company, Dept. CUB, Battle Creek, Mich. (Key No. 504)**



Ceiling Suspension Germicidal Unit

Hanovia has developed a new ceiling suspension germicidal unit as an addition to the line of Safe-T-Aire fixtures. This model ST2832 provides indirect irradiation to the upper air and may be equipped with various types of Hanovia burners, depending upon the requirements of the room. The new unit is streamlined in design and finished in ivory Vitrolyn enamel. Two windows in the bottom of the fixture reflect the ultra-violet light and indicate when the lamp is operating. **Hanovia Chemical & Mfg. Co., Dept. CUB, Newark 5, N. J. (Key No. 505)**

Deluxe Portable Sound System

The new deluxe portable sound system recently announced by RCA is compact, efficient, easily operated and modern in design. Designated as RCA Type SP-15A, the new unit has an aerodynamic microphone, low distortion, high output amplifier, heavy duty alnico permanent magnet-type loud-speaker and is housed in a two tone luggage size carrying case. It is designed for use in moderate size auditoriums but provision is made for the attachment of a second loud-speaker for larger areas. **Radio Corporation of America, RCA Victor Division, Dept. CUB, Camden, N. J. (Key No. 506)**

Holt Sander

The new Master Professional Tandem 12 sander developed by Holt has two 1½ h.p. motors mounted in tandem to provide extra power, prevent overload and give superior weight distribution. The machine has automatic belt tighteners, compensator springs, and self-aligning bearings which are permanently grease sealed. The Holt Demountable Drum cushion can be quickly and easily changed if necessary without loss of operating time and the top housing and motors can be quickly detached for easier portability.

The Holt Whirlwind Blower fan gives high vacuum suction providing clean, dust-free operation and pickup on either forward or back stroke. The unit is powerful, compact and sturdy. **Holt Mfg. Co., Dept. CUB, 651 20th St., Oakland 12, Calif. (Key No. 401)**

Transcription Playback Instruments

Two new transcription playback instruments with removable 12 inch speakers, offering unusually fine reproduction, have recently been announced. Model D Harris Electrotone has a 4 tube amplifier while Model 50 has 6 tubes and is so designed as to permit mixing of microphone and phonograph inputs, each with separate volume control.

Both units have 2 speed, variable speed control rubber mounted motors, Astatic nylon crystal pickup with replaceable sapphire-tipped nylon needle, and are enclosed in sturdily constructed plywood carrying cases with nickeled metal corners and metal knees, rubber feet for both carrying and operating positions, sturdy leather handle and speaker portion removable and equipped with extension cords. **Harris Mfg. Co., Dept. CUB, 2422 W. 7th St., Los Angeles 5, Calif. (Key No. 402)**

Reproduction Unit

A new streamlined dry process reproduction unit has been announced for making a variety of dry prints, positives and negatives. It is designed to reproduce anything drawn, typed, printed or photographed on translucent paper in a matter of seconds. Only a single operator is needed to turn out prints with black, red, blue, yellow or sepia lines and images. The machine develops continuous prints up to 42 inches wide from cut sheets or roll stock in any lengths, at a speed of 5 feet per minute. The unit is easily installed, requires a minimum of space and is simple to operate. **Peck and Harvey, Dept. CUB, 5736 N. Western Ave., Chicago 45. (Key No. 403)**

All-Purpose Floor Machine

The new "Floorite" all-purpose floor machine is a compact, easily handled unit which will scrub, wax and polish all types of floors. It can be quickly converted for rug scrubbing and other wet scrubbing operations by attaching a special tank.

The new model has a 12 inch diameter brush and a newly designed, compact

Lo-Hite ¼ h.p. motor which is 5 inches tall. This permits its use under low objects. It is also designed for more quiet operation, has insulated dual safety switch, improved type hand grips, self-raising 3 inch rubber wheels, extra-heavy rubber bumper and 34 foot rubber extension cord. **United Floor Machine Co., Inc., Dept. CUB, 7600 S. Greenwood Ave., Chicago 19. (Key No. 404)**

Stainless Steel Sinks

The new "Value Line" stainless steel sinks developed by Blickman have round corners and are of seamless welded construction. Available in one, two or three compartments, each sink may be had with any one of four drainboard arrangements. Made of 18-8 stainless steel for heavy-duty service, the sinks should serve well for general utility in the college as well as in the Home Economics department. **S. Blickman, Inc., Dept. CUB, Weehawken, N. J. (Key No. 405)**

Grease Interceptor Control

Discharge from one or more fixtures through a grease interceptor can now be properly distributed through use of the Flow Control Tee recently perfected. The control guards against overloading due to sudden surges from sinks or other fixtures and maintains the flow so that the interceptor can operate at high efficiency.

The new Flow Control Tee is furnished with all Zurn Greaseptors and is available separately for use with present grease interceptor installations of any manufacture. The new Tee also provides proper venting and is equipped with a cleaning handle or plunger to remove solid material which may become wedged in the orifice. **J. A. Zurn Mfg. Co., Dept. CUB, Erie, Pa. (Key No. 406)**

Scribe Visualizer

The Scribe Visualizer is a device for projecting upon a screen prepared copy and illustrations as well as extemporaneous notes and explanations. The machine is simple to operate, has few moving parts and only two adjustments which are made by convenient knobs. Images are projected through the back of a special screen so that the instructor faces his audience and it is not necessary to darken the room for the operation of the device.

The instructor sits at table or desk, facing the class, inserts prepared material, makes notes and marks as desired with an ordinary grease pencil and makes necessary comments and explanations. A fresh writing surface is exposed by the turn of a knob within easy reach of the left hand. The standard screen is 30 by 37½ inches in size and a larger screen is available for larger rooms. The unit is sturdy, lightweight, and practical in

operation. **The Visualizer Company, Dept. CUB, 170 S. Beverly Drive, Beverly Hills, Calif. (Key No. 407)**

Athletic Ball Repair Unit

The new Voit RU1 Latex Repair Unit is designed to seal minor punctures in rubber covered athletic balls. The unit consists of a tube of high quality liquid latex, directions for use and a standard inflating needle through which the latex is injected into the ball. The repair kit is not recommended for balls with separate or replaceable bladders or for larger playground balls. **W. J. Voit Rubber Corp., Dept. CUB, 1600 E. 25th St., Los Angeles 11, Calif. (Key No. 507)**

Record Storage

A new economical, efficient and simple method of housing, filing and protecting recordings and transcriptions is offered in the Diskeeper. This convenient unit consists of sectional cabinets which can be placed together to form a file or library of any required size. Each unit of the all metal cabinet contains six compartments, three in a row, two tiers high. Each compartment houses 30 discs in individual pockets constructed of strong red wallet material. It is so designed, and fastened into the compartment by a removable metal bar, that the record in the pocket can be swung out when needed. Diskeeper file cards for cross-indexing and immediate reference are part of the system.

The cabinets, constructed of 20 gauge metal, spotwelded, are available in three sizes, 10, 12, and 16 inch discs. Where albums are used the individual pockets can be omitted from the necessary number of compartments. **Wallach & Associates, Dept. CUB, 1532 Hillcrest Rd., Cleveland 18, Ohio. (Key No. 508)**

Water Tempering Controller

The new Symmons thermostatic Tempering Controller valve is designed to maintain constant predetermined water temperatures at any outlet where it is installed, regardless of temperature variations. It may be installed anywhere along the line for perfect zone control, is interchangeable and easily removed. The dial is calibrated in 10 degree units with a 5 degree space between so that temperatures can be accurately set. Thus when it is necessary to have very hot water at some outlets, the new valve can be installed at other outlets to control the temperature of the water and prevent waste of hot water.

A solid fill bellows, mounted out of water in a protected chamber open to atmosphere, actuates the valve. It is available in ¾ inch and 1 inch sizes and is designed to last the life of the installation. **Symmons Engineering Co., Dept. CUB, 791 Tremont Place, Boston 8, Mass. (Key No. 509)**

Product Literature

• Helpful information and illustrations of projection screens are offered in the 16 page **"Miniature Catalog"** issued by Da-Lite Screen Company, Inc., 2711 N. Pulaski Rd., Chicago 39. Screen tables, standard aperture chart, formula for finding the correct screen size for any projector and any lens at any distance and helpful hints on the relative merits of Mat White and Crystal-Beaded picture surfaces are included in the booklet. **(Key No. 510)**

• The Fifth Edition of the very practical and helpful booklet, **"Washroom Advisory Service,"** is now available from Scott Paper Company, Chester, Pa. Utilizing the experience and knowledge gained from a study of over 300,000 washrooms in all types of buildings, Scott Washroom Advisory Service has prepared this booklet to help solve some of the problems encountered and to suggest efficient layout for washrooms of all types. Convenience, safety, economy and efficiency are stressed in the booklet which contains 35 line drawings suggesting effective plans for washrooms of almost all sizes. The booklet should prove particularly useful to those planning new buildings or remodeling of old ones. **(Key No. 511)**

• Full information on the extensive line of shackle locks, built-in locks and locks for laboratory and vocational equipment manufactured by National Lock Company, Rockford, Ill., is now available in an attractive new 4 page bulletin, **"National Locks for School-, Colleges and Universities,"** recently released. The folder has been designed for college officials, architects and others interested in the planning of modern locker and laboratory facilities. Information is included on self-locking locks, both with and without master keys. **(Key No. 512)**

• **"Paper Cups and Containers at Your Service"** is the title of an alphabetical directory of the foods and drinks that can be served in paper with recommendations as to the size, shape and style of container designed for each. The booklet is available from the Public Health Commission of the Paper Cup and Container Institute, 1790 Broadway, New York 19. **(Key No. 513)**

• The advantages of using **Aquatone** in the treatment of swimming pool water are covered in a pamphlet issued by Creative Chemical Co., 4618 Friendship Ave., Pittsburgh 24, Pa. The uses of this product, which softens the water, prevents eye irritations, neutralizes the causticity of chlorine-treated water, represses algae formation and acts as a solvent for greasy contaminatives, are described in detail. **(Key No. 514)**

• A system for the procurement by accredited schools of electric appliances for home economics departments at approximately half their retail price, with an arrangement to replace them annually at no extra cost, has been announced by Hotpoint, Inc., 5600 W. Taylor St., Chicago 44. This new national **Electric-Education program** will be available to high schools and colleges in cooperation with local electric companies. **(Key No. 515)**

• **"Steps to Beautiful Floors"** is the title of an attractively laid out and printed brochure illustrating the colors and some of the suggested combinations of Fremont Rubber Tile. Information on the product, its comfort, ease of cleaning, wear resistance and other qualities, is included in the folder issued by Fremont Rubber Co., 105 McPherson Highway, Fremont, Ohio. **(Key No. 516)**

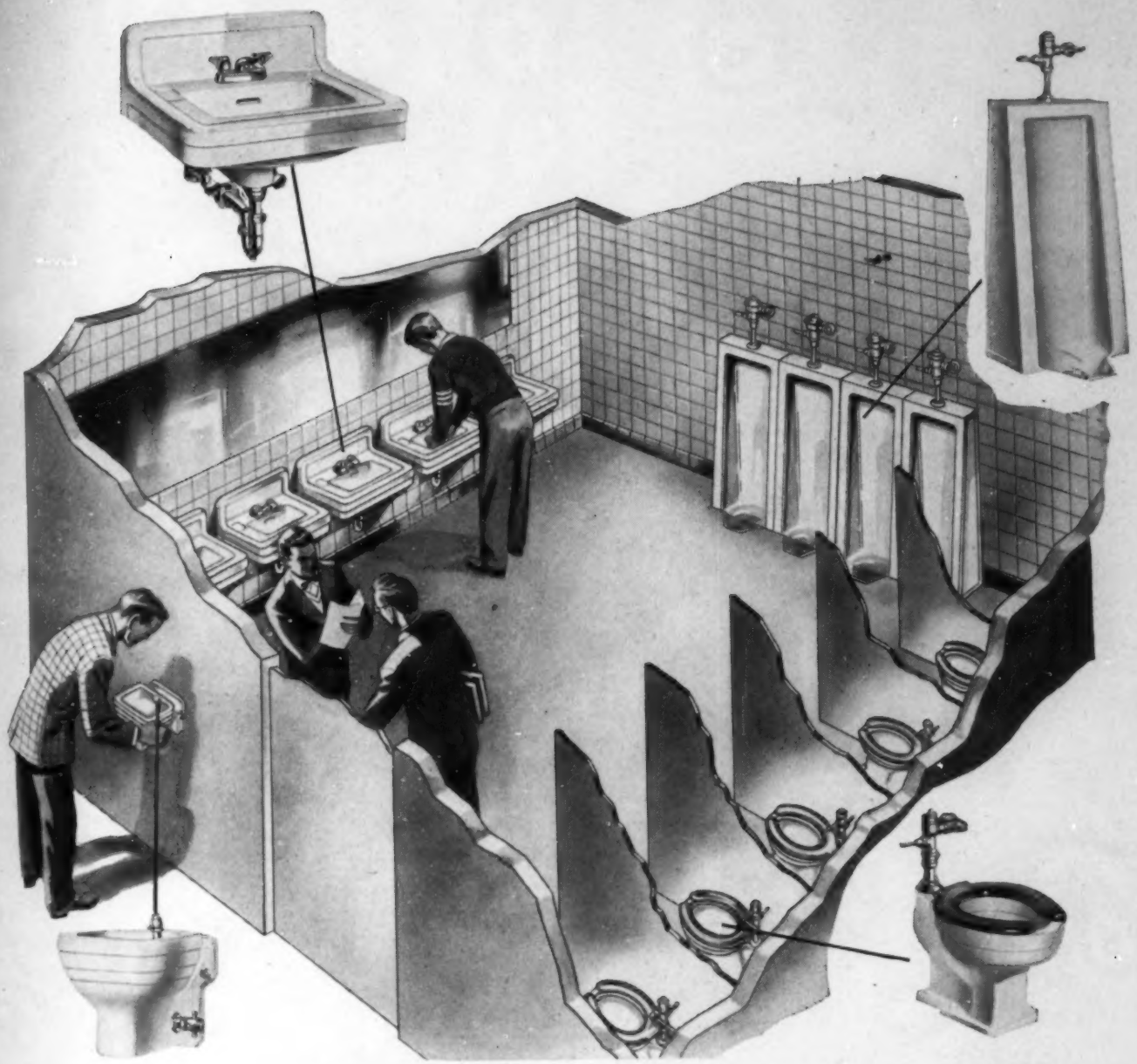
• A 24 page catalog showing the line of **"Soda Fountains and Luncheonette Equipment"** developed by the company is available from the Liquid Carbonic Corp., 3100 S. Kedzie Ave., Chicago 23. Full details, illustrations and specifications of all standard units are included to help the administrator in planning a fountain installation. **(Key No. 517)**

• The new **catalog of Rubon mops and polishes** contains detailed information with illustrations of the complete line of maintenance products made by Rubon Woodfinishing and Products Co., 500 W. Seventh St., Kansas City 6, Mo. **(Key No. 518)**

• The first **Varlar Sample Book** has recently been issued by Varlar, Inc., division of United Wallpapers, Inc., Merchandise Mart, Chicago 54. This booklet contains information on the full line of 93 styles in Varlar stainproof wall covering now available, the styles grouped and numbered for easy selection of harmonizing designs and colors. **(Key No. 519)**

• A complete new catalog, printed in color, has been issued by The Silex Company, Hartford 2, Conn. Known as **Form REC-148,** the new catalog illustrates and describes each model of the Silex gas and electric coffee making units, replacement parts and accessories and has a section devoted to new items in the line. **(Key No. 520)**

• Two bulletins on the effectiveness of Chlordane, the all-purpose insecticide, in the control of roaches and ants, have been issued by the Chemical Corporation of Colorado, Denver, Colo. Entitled **"Eradication of Roaches"** and **"Direct Control of Ants,"** the booklets give technical information on procedure, as well as data on the product. **(Key No. 521)**



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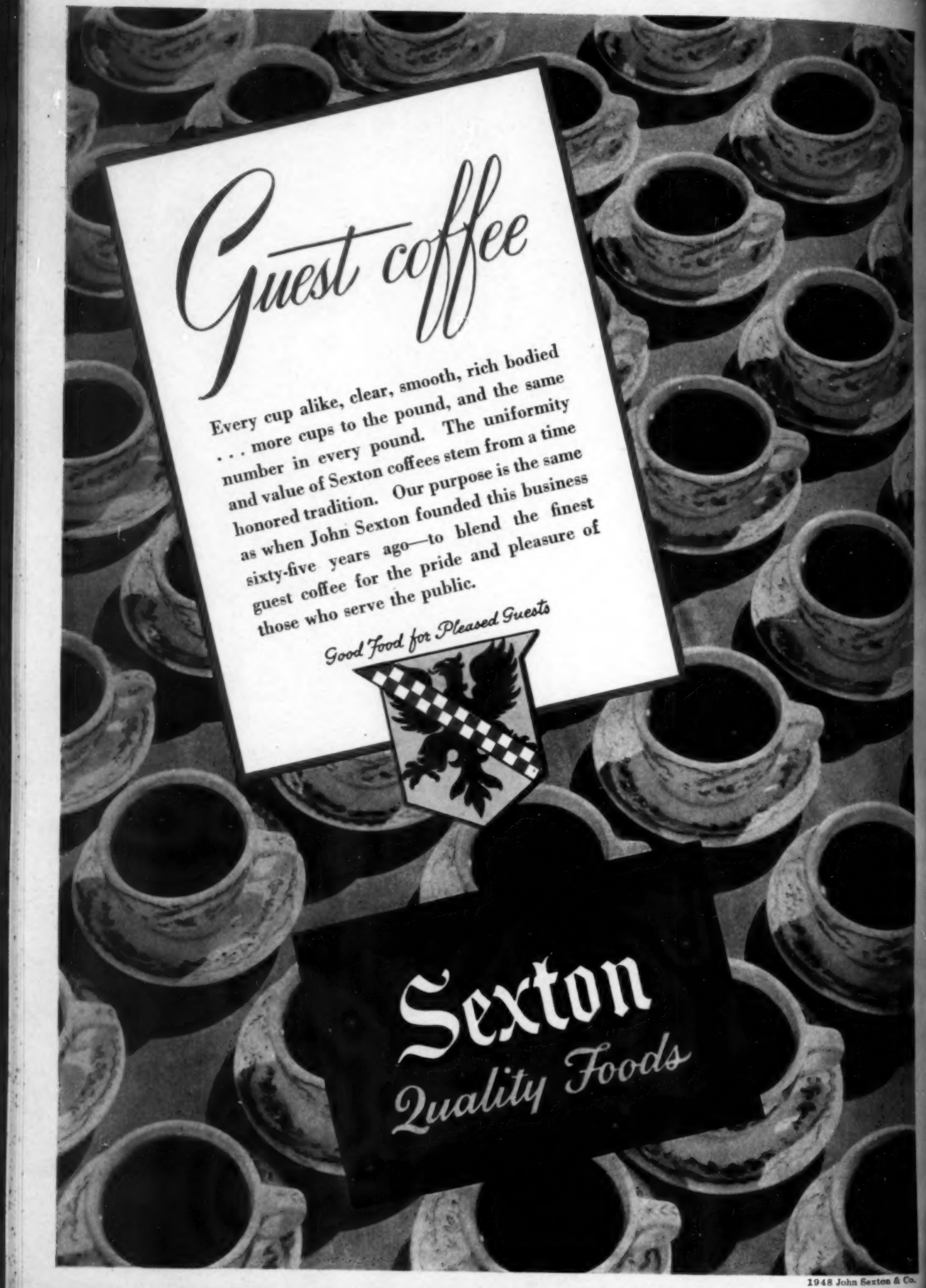
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Every cup alike, clear, smooth, rich bodied . . . more cups to the pound, and the same number in every pound. The uniformity and value of Sexton coffees stem from a time honored tradition. Our purpose is the same as when John Sexton founded this business sixty-five years ago—to blend the finest guest coffee for the pride and pleasure of those who serve the public.
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